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SPHAERODACTYLUS.

BY

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WITH TWENTY-SIX PLATES.

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SPHAERODACTYLUS.

INTRODUCTION.

THERE is scarcely a single Neotropical genus which has proved more baffling to students than the one chosen for revision now. The species are often extremely small, adequate series of specimens are not frequently available, and as is common in generalized, homogeneous groups, the characters available for specific definition prove to be variable in the extreme. Thus while with the fresh material in hand the reviewer has no great difficulty in separating the various forms, yet when he comes to justify his conclusions by actually describing the conditions observed, the task becomes one of most acute difficulty; while the preparation of satisfactory keys for the determination of the species is an almost hopeless task. I was led to attempt this revision solely by the fact that owing to the long interest in West Indian exploration, which has centred in the M. C. Z. a series of several hundred sphaerodactyls has gradually accumulated. This series represents no less than thirty-one species of the thirty-five which are recognized as valid including typical material of twenty species and fifteen types of valid species.

I acknowledge with deep gratitude the courtesy which I have received from Drs. Leonhard Stejneger, G. A. Boulenger, Lars G. Andersson, A. G. Ruthven, Mr. G. K. Noble, and Mr. H. W. Fowler, all of whom have aided my studies. The quite satisfactory drawings are by Mr. E. N. Fischer, whose skill is already well recognized.

The sphaerodactyls form a compact group of Gekkonidae highly characteristic of the Antillean subregion and the adjacent mainland. All the species, except one, are found in countries bordered by the Caribbean Sea. This one is the peculiar species on Cocos Island off the Pacific coast of Costa Rica. I noticed that three others from South America differed from all the rest in that they lacked the supraorbital spine,[1] a character of great taxonomic importance. Therefore, though they have been called Sphaerodactylus there seems good

[1] It is interesting that the possession of this unique character is shared by the genus Aristelliger, which is also Antillean and not distantly related.

reason to believe that these three species, viz. *meridionalis* Boulenger, (Ann. mag. nat. hist., 1888, ser. 6, **2**, p. 40. Iguarasse, Brazil), *scapularis* Boulenger, (Ann. mag. nat. hist., 1902, ser. 7, **9**, p. 54. St. Javier, Ecuador), *amazonicus* Andersson, (Ark. zool., 1917, **11**, no. 16, p. 1. Manaos, Brazil) should be allocated to the Eublepharidae if that family be recognized. A very large series of small lizards from northwestern Peru agree closely with Boulenger's description of *scapularis* and in the field Mr. Noble considered them sphaerodactyls. I have, however, examined the series and ascertained their eublepharid affinities and think they should be placed in Lathrogecko or Lepidoblepharis (syn. Pseudogonatodes).[1]

Sphaerodactylus.

Small, generalized, gekkoniform lizards having "Digits narrow, slender, free, with transverse lamellae inferiorly, the apex dilated into a disk, with a circular undivided plate inferiorly; all digits with a sheathed retractile claw, the sheath opening laterally and inwards. Scales granular or imbricate. Pupil round or subelliptical. Eyelid nearly circular. No preanal or femoral pores." (Boulenger, Cat. lizards Brit. mus., 1885, **1**, p. 217).

The rather primitive character of these lizards is emphasized by the comparatively simple digital structure, by all of the digits being similarly disked, by the eye with certainly almost always, if not always, a round pupil, in spite of the decidedly nocturnal or crepuscular as well as sometimes diurnal habits, and in lacking preanal or femoral pores.

Within the genus the species show many diverse types of squamation of which we may assume, and probably correctly, that the simple granules on head and body, quite undifferentiated, represent the most primitive condition. This squamation seems to be characteristic of species in which the males and females often show the same gamut of colour-variations as *e.g.* in *cinereus* or *elegans*. These species are small and show great power of adaptation to environment for they occur commonly in open clearings, in the dense forests and commonly in human habitations as well. This also is the type of squamation observed in Aristelliger and Phelsuma.

The granules from being rounded or tubercular give rise naturally to keeled granules (*lineolatus*); these again begin to enlarge and become imbricate, and though at first very small (*nigropunctatus*), we see them increase in size through conditions typified by such species as *notatus*, *macrolepsis*, or *pictus*, finally leading to such giant species, comparatively speaking, as *richardsonii*, *anthracinus*, and *copei*. These largest species have the largest dorsal scales not only

[1] Since described as a Lepidoblepharis by G. K. Noble (Ann. N. Y. acad. sci., 1921, **29**, p. 133).

actually but proportionately and are all comparatively rare. It must not be supposed that these species are in any wise ancestral the one to the other; but are simply examples chosen as typifying arrested stages pointing out the path by which such a form as *anthracinus*, for instance, may have been derived from one like *cinereus* at first sight apparently wholly unrelated. The apparent dissimilarity is bridged over by a series of hypothetical ancestral intergrades which happen to be illustrated by various scattered species. In *anthracinus* (syn. *asper*), *copei* (syn. *picturatus*) and *scaber* there is a distinct sexual dichromatism, the males being monochrome, the females fantastically banded and decorated with ocellate spots. However, a similar dichromatism exists in *decoratus* and *torrei* among the species having granular scales.

A condition similar to this has been independently arrived at in some species of Gonatodes, far from closely allied. This apparently is not true of the Jamaican *richardsonii* for I have traced eight specimens, all banded and of this number both sexes were probably represented. Structurally this species is closely related to the three others but is more primitive in colouration, probably, and in lacking the middorsal zone of granules. This curious character has not been mentioned previously. It is found that in several, indeed, in most of the species with very large scales, there is a narrow zone of fine granular scales running down the middorsal region. This probably has been at least three times independently acquired in that the zone is rather wide and not very sharply defined in *vincenti* (St. Vincent) and *macrolepis* (St. Lucia); while *festus* (Martinique) shows no sign of a zone. The species from the Upper Lesser Antilles, *pictus* (St. Kitts), *sputator* (St. Eustatius) and *elegantulus* (Antigua) have a very narrow zone, sharply defined although the body-scales are not so very large. In Porto Rico, Mona, and the Virgin Islands (*macrolepis*), the local species although large scaled, has no middorsal zone. On the other hand, in Cuba, Haiti, and Andros Island there are very large species with very large scales, viz. *scaber*, *copei*, and *anthracinus* respectively which have the middorsal granular zone well defined. Thus it may be observed that the character appears in three separated groups of species. No explanation has been offered suggesting why this character should be acquired. It seems reasonable, however, that it may have to do with the flexibility of the body. The large overlapping scales tend to form a sort of cumbrous armour and the expansion and contraction of the body connected with breathing may be facilitated by this zone of small, non-imbricating scales lying upon a flexible integument. Analogous, but more obviously necessary, are the lateral grooves of soft skin or fine scales seen in

certain anguids, without which respiration would be impossible owing to the integumentary armament.

Since this memoir was prepared for publication some time ago it behooves me to comment supplementally on Noble's valuable paper The bony structure and phyletic relations of Sphaerodactylus and allied lacertilian genera, with the description of a new genus published in the American museum novitates, 10, March, 1921, no. 4, p. 1–16, 8 figs.

In this paper Noble gives the results of his studies of the skeletal features of a number of gekkoid genera made with the aid of cleared preparations. With one of his conclusion I most heartily agree, namely that the Eublepharidae constitute an unnatural assemblage and it is evident that the family serves no useful purpose, being simply an *omnium gatherum* combining the end results of several lines of descent not closely related. Thus the family "instead of being a very ancient group as hitherto believed,. . . may be a very recent assemblage, even if a conservative one."

Noble derives Sphaerodactylus from a genetic series of which Gonatodes, Lathrogecko, and Lepidoblepharis represent successive stages of modification. Various internal characters are cited and illustrated to support the evidence derived from a comparative study of the digital apices; this is presented very persuasively and while it may be correct it is by no means certain that too much stress is not placed upon fortuitous similarity. I believe that often skeletal modifications are very easily brought about by changes in feeding habits or through very many other causes and often even what are apparently such ephemeral features as colour-characters may be very conservative. In other words the external facies of an organism *may* offer, within reasonable limits, better criteria for postulating relationships than certain skeletal features.

Noble's work on the claw-sheaths is very valuable, and while here again it is possible that similarity may not indicate actual phyletic relationship nevertheless the probability is very considerable that some such descent has taken place when this evidence is taken in connection with the internal characters of hyoids and girdles.

It would be very interesting to know Mr. Noble's views on the connection of Aristelliger with this series for it is almost inconceivable that this relationship is not close. I strongly suspected this genus to be the closest ally of the sphaerodactyls. That no fossils remain to cast light upon the subject is not surprising in view of the fragility of their bony skeleton.

The sphaerodactyls are preëminently island gekkos and they probably occur

upon nearly every island in the Caribbean area. They are rare in Mexico and Central America and the species are few. Of their distribution in northern South America we know little or nothing. This, considering the collecting which has been done, indicates that they are very rare if not absent.[1] The two Trinidadian species, *molei* and *buergeri*, are very scarce. Indeed, zoölogically Trinidad is hardly an island, so recent has been its continental connection. No sphaerodactyls have been found in the Leeward group composed of Aruba, Buen Aire, and Curaçao; nor on Margarita nor yet on Old Providence, St. Andrews, or the Corn Islands, but many of these locations have hardly been touched herpetologically.

In the Greater Antilles and in the Bahamas as well as in many of the Lesser Antilles of which we can speak with authority, they fairly swarm. *Sphaerodactylus argus* in Jamaica occurs in every native hut on the Luguanea plain about Kingston, under every stone wall, under fallen leaves, and dry vegetable trash in great numbers and other species elsewhere are very common. In general, the species are confined each to a single island; the exceptions occur mostly in the Bahamas. Here many of the islands are but recently separated from each other or human migration may be playing some part. *Sphaerodactylus notatus* deserves special mention. This species, first made known from Key West, occurs on most of the Bahamas and on Cuba, the very slightly varying Haitian individuals have been given a name (*difficilis*) which is, I think, probably justified. Whereas it had been usually believed that *notatus* was of purely fortuitous occurrence in the city of Key West, further investigation shows that the species occurs widespread in the Florida Keys and upon the mainland in the extreme southern tip of the peninsula of Florida as well. This beyond doubt, is a definite case of chance transportal, but whether by human agency or by the action of wind and wave cannot now be told. Nor is it surprising, for zoögeographers have been inclined to believe that no weight could be given to evidence based on the existing dispersal of small gekkonids and scincids. There is very clear evidence among the islands of the Pacific that small lizards of these families have been carried hither and yon beyond doubt, by the wide-sailing Polynesians. In the Pacific Islands, however, one finds the same species widely scattered upon isolated islands distributed far and wide throughout an immense area. The

[1] Boulenger (Cat. lizards Brit. mus. 1885, **1**, p. 224) records a specimen of what he calls *S. fantasticus* from Caracas. The locality record has never been verified and although the description is in rather vague terms and there is no indication to show whether Boulenger's description was drawn from this specimen or not, it nevertheless reads like *fantasticus* from Guadeloupe. Boulenger's other specimen listed is from Antigua and is probably *elegantulus*.

exact reverse is the case in the West Indies and while we are not constrained to lay any very great stress upon the evidence of Sphaerodactylus as bearing a relation to the past geographic changes in the region, it is only fair to point out that the distribution is not at all haphazard. The species are generally well defined by long isolation and bear evidence that no frequent interbreeding by the arrival of fresh stock through flotsam and jetsam has taken place. This is as evident on little Navassa, for example, where the species population must be very small, as upon Cuba where it is numberless. It is, therefore, reasonable and conservative to state that with the exception of *notatus* (which has obviously been carried about and by the condition in the Bahamas as yet very incompletely known), the distribution of the Antillean sphaerodactyls bears no evidence within itself of being the result of fortuitous dispersal. While sphaerodactyls are not recorded from certain islands, *e.g.* Saba, Redonda, Nevis, the Turks and Caicos Archipelagos, it should be strongly emphasized that these islands are as yet very imperfectly known and there is no reason to suppose that the genus will not be found to occur, especially in the northeastern Lesser Antilles.

The majority of the species are found more abundantly upon the coastal plain of the various islands than in the interior highlands. Dense forest appears to offer a less suitable environment than open, cultivated, and inhabited lands. Nevertheless, while collecting Peripatus near the Cuna Cuna Pass in the Blue Mountains of Jamaica, I found *Sphaerodactylus goniorhynchus* abundantly under rotten logs to the very summit, but neither *argus* nor *richardsonii* was ever seen. Some species have found that human habitations offer so safe and favorable an environment that now they are rarely seen in other situations. Thus *elegans* and *cinereus* occur in great abundance behind pictures on the wall, behind and in furniture, in chinks and crannies of walls and wainscoting and in similar places far more often, certainly probably in the ratio of one hundred to one as compared with the number of individuals now living out of doors. The fact that so many species prefer lowland to highland habitat and some indeed even frequent the windrows of pebbles and seaweed at high-tide mark, makes it the more remarkable that all the species are so definitely fixed in their distribution.

Little of interest can be written regarding the habits of creatures which live such colourless lives. They are, of course, harmless though one cannot persuade many West Indian natives that this is so. Their beauty of form, of skin, and of movement is very great. The integument of many species has a peculiar and beautifully silky quality in life and the eyes of these little creatures glisten like tiny jewels. They move about with funny little gliding jerks and pass readily

over smooth surfaces both perpendicular and overhanging. In country houses in Cuba they often come to one's reading table creeping daintily to within the sphere of lamplight to catch little moths and flying ants. In the British Islands the name Wood-slave is generally applied; while in Spanish it is Santa Lucia upon Porto Rico; and in Cuba, Salamandra, Salamanquita, or Salamanquesa, all obviously based upon the assumption that there is some relationship with the Salamander. The tiny *elegans* is called Salamanquita de la Virgen. It has been suggested that this name is due to the habit of hiding behind pictures on the wall, and in the country in Cuba the only picture is often of the Virgin. The name Sabandija is used in the mountains of Oriente and Central Cuba applied to various species.

Sphaerodactyls seem in general to lay but a single white egg. Round or slightly oval, it is covered with a hard, brittle chalky shell. The habit of many species of laying in the old termite galleries of rotten logs as well as in other dark moist situations would again seem to enhance the ease with which fortuitous means of transport might act upon the genus. Nevertheless, possibly because the eggs are delicate and sensitive to salt water or any other disturbance, they certainly seem most fragile, there is no evidence to be gathered from the distribution which sets them off from the regular typical West Indian forms. Their dispersal seems to conform to certain more or less known rules — whether the reason for this homogeneous dispersal be found in the even action of flotsam and jetsam bringing all the same immigrants to all the islands as some postulate or in previous changes in the geographic form and relations of the islands as seems much more plausible.

A word as to the methods pursued in the body of this revision. Great stress is laid on the number of dorsal scales which counted along one single row, equal the distance from the tip of snout to the centre of eye. The best method in making identifications is to verify the count given in the diagnosis by comparing and counting the scales in the figure of the dorsal scalation of each species. Thus the method of making the count can be checked and then applied to an examination of the particular specimen in hand.

Where there is no occasion to revise or to change the allocations to synonymy made by Boulenger in the Catalogue of lizards in the British museum (1885, 1) no allusion is made to them and they are accepted as proposed. Differences of opinion and synonyms subsequent to 1885 are given in full.

It has been found extremely difficult to find stable characters, many of those given in the specific descriptions, although their inclusion is sanctioned by

time-honored usage have no diagnostic value whatsoever. The median groove in the rostral, the superciliary spine for instance are really generic and not specific characters yet their mention in specific descriptions has always been customary. The conditions in the supralabial series are so variable that no reliance can be placed on characters apparent there. So also, though in a less degree, the number and shape of the scales separating each supranasal from its fellow of the opposite side, is subject to much variation. The shape of head and body is useful to observe, although the tail varies widely in proportion to the body-length. Still it is generally longer and much more slender in females than in males. The best characters are to be found in the size, form, and arrangement of the scales of both the dorsal and ventral surfaces. Colour also as becomes daily more evident, is of far more value in diagnosis than has previously been supposed. Many features of pattern are strongly fixed. Lines may break up into series of spots; these may be many or few or the whole series may be absent but even a remnant is likely to be very definitely located with reference to the original complete pattern. Thus also markings, such as the spectacles so often seen on scapular or sacral regions, may or may not be present but if present their location is not haphazard, but is very distinctly fixed. The brilliantly cross-banded species occur in the Greater Antilles and Bahamas and curiously enough are found among the two extremes of the genus. They are either species with tiny granular scales or with enormous tectiform dorsals and among these two divergent groups sex-linked dichromatism has become well established. There are probably many more sex-linked colour-characters than are now recognized. Their discovery will further reduce the range of apparently fortuitous variability of each species.

It is a somewhat surprising fact to observe how close is the correspondence between the distance from the tip of snout to the ear and the length of the fore limb. If the first distance is longer than usual so also the fore limb is likewise long. Whether this fact has any special significance does not appear. There may be some relation between the length of the arm and a corresponding head-length which makes more convenient the picking of small objects from the ground with the mouth or by using the thick fleshy and only slightly extensible tongue. While one occasionally sees a sphaerodactyl struggling to subdue a little moth, its wings flapping a most inconvenient if ineffectual protest, it is far more common to find them eating ants. Little ants swarm in houses in the tropics as everyone who has lived there knows to his sorrow, and this may in some degree account for the lizards frequenting houses too. Ants creeping over smooth

walls and floors are more easily caught even if not more abundant than when they have to be picked out from among the small pebbles and grass-blades of out-of-doors where they may hide so easily. It is at least as hard for the little sphaerodactyl to force its way through standing grass in quest of its prey as it is for a man to push his way through a bamboo thicket after a larger quarry. So ants coming into houses, the appearance of the lizards is a natural sequel. As for enemies they probably have but few, therefore one wonders why they do not fairly swarm. It is entirely possible that the abundant and bold predacious arachnids which also favour houses as temporary dwelling places, may make away with them. The great hairy spiders, Aviculariidae, are held in certain awe by all small wanderers whether warm or cold blooded.

Key to the Species.

A¹ Dorsals granular.
- a¹ Dorsal scales granular, not sharply keeled.
  - b¹ Granules enlarged upon the flanks.
    - c¹ Distinctly enlarged, ♀ cross-banded, ♂ unicolor with yellow tail . *decoratus*
    - c² Granules of flanks slightly enlarged.
      - d¹ Usually heavily spotted, head deep, short, snout obtuse . . . *gibbus*
      - d² ♂ usually faintly and ♀ usually conspicuously cross-banded, head usually more pointed, snout generally acute . . . . . *torrei*
  - b² Granules homogeneous.
    - c¹ Granules very small, about 25 equal distance of tip of snout from centre of eye, tail coral-red in life, body sharply cross-banded . . . *elegans*
    - c² Granules larger, about 18 in equal distance.
      - d¹ Scales of vertex very small, of snout large and flat, colour finely speckled, vermiculations on head and neck . . . . . *cinereus*
      - d² Scales of head less differentiated, habit slender, usually cross-banded on head and shoulders only . . . . . *intermedius*
- a² Dorsal scales granular, and keeled.
  - b¹ Granules very small, 23 or 24 in standard distance, size large, body stout . *pacificus*
  - b² Granules larger.
    - c¹ Snout rather acute, longitudinal white stripes on head and body, about 20 granules in standard distance . . . . . *molei*
    - c² Snout rounded, usually fine longitudinal dark streaks on head and neck, about 21 or 22 granules in standard distance . . . . . *lineolatus*

A² Dorsals imbricate.
- a¹ No differentiated middorsal zone.
  - b¹ Dorsals small imbricate smooth . . . . . *glaucus*
  - b² Dorsals keeled.
    - c¹ Keeled and small 9–15 in standard distance.
      - d¹ Scales weakly keeled about 9 in standard distance, head slender, markings usually longitudinal . . . . . *difficilis*
      - d² Scales strongly keeled, smaller.
        - e¹ Dorsals about 14 or 15 in standard distance.
          - f¹ Dorsals distinctly broad . . . . . *festus*
          - f² Dorsals elongate.
            - g¹ Ventrals keeled . . . . . *goniorhynchus*
            - g² Ventrals smooth.
              - h¹ Head long, depressed, pointed; a spectacle mark on sacrum; body spotted . . . . . *oxyrrhinus*

h² Snout rounded, head short (normal), no distinctive colour-pattern . . . . . *argivus*

e² Dorsals about 10 or 12 in standard distance.

f¹ Dorsals about 12, supranasals small, separated usually by four scales about their own size . . . . . *nigropunctatus*

f² Supranasals large, normal, separated by one or two small scales.

g¹ Heavily striped along back and sides, dorsal stripe bifurcating on head . . . . . *buergeri*

g² Spotted not striped.

h¹ A crescentic groove on each side of rostral median groove . . . . . *argus*

h² No lateral grooves on rostral . . . . . *corticolus*

c² Dorsals keeled and larger, no differentiated middorsal zone.

d¹ Very large, four to seven scales in standard distance.

e¹ Only four in standard distance, head swollen; but body small with collar, light coloured . . . . . *gilvitorques*

e² Five or more scales in standard distance.

f¹ Five scales, species very large, strikingly cross-banded . *richardsonii*

f² More than five scales.

g¹ Scales of chest keeled, of belly smooth . . . . *macrolepis*

h¹ Dorsals weakly keeled 6–7 in standard distance . . . . . *exsul*

h² Dorsals strongly keeled, 7 in standard distance . . . . . *notatus*

a² Scales keeled and imbricate but the scales of middorsal region smaller than those of flanks.

b¹ A middorsal zone of tiny granules.

c¹ Large dorsals about 6 in standard distance.

d¹ The large keeled tectiform scales reaching far forward on neck, nearly to head . . . . . *anthracinus*

d² The large keeled dorsals not reaching so far.

e¹ Reaching just to the lower neck . . . . . *copei*

e² Reaching to scapular region only . . . . . *scaber*

c² Large dorsals more than 6 in standard distance.

d¹ Large dorsals about 7–8 in standard distance; ventrals weakly keeled . . . . . *fantasticus*

d² Large dorsals about 9–10 in standard distance.

e¹ Dorsals rather weakly keeled, about 9 in standard distance, granular zone only well developed posteriorly, spotted . . *pictus*

e² Dorsals strongly keeled about 10 in standard distance.

f¹ Colour uniform except for dorsals scales having dark edgings, giving reticulate appearance . . . . . *becki*

f² Colour mottled or cross-barred, loreals excessively small *sputator*

b² Middorsal zone composed of scales more or less distinctly reduced in size but not conspicuously granular as in b¹.

c¹ Largest dorsals about 7 to 13 in standard distance.

d¹ About 12–13 of the larger scales in standard distance.

e¹ Scales of belly keeled . . . . . *microlepis*

e² Scales of belly smooth.

f¹ Scales of upper (anterior) part of neck keeled, a very few in ♀, more in ♂; latter uniform iron-gray, former pepper and salt colour, young cross-banded. . . . . *elegantulus*

f² Most of the neck scales strongly keeled; a bifurcating light mark at root of tail . . . . . *vincenti*

d² Dorsals and laterals rather uneven in size, about 7 of largest laterals and 10–11 middorsals in standard distance; a few small scales intermixed with the largest . . . . . *monilifer*

SYSTEMATIC ACCOUNT OF THE SPECIES.

1. Sphaerodactylus decoratus Garman.

Plate 1, fig. 1; Plate 10, fig. 1–4.

Sphaerodactylus decoratus Garman, Bull. Essex inst., 1888, **20**, p. 111.
Sphaerodactylus flavicaudus Barbour, Bull. M. C. Z., 1904, **46**, p. 56.[1]

Type-locality:— Rum Cay, Bahamas.

Type:— M. C. Z. 6,220; a single young specimen, now somewhat dried, C. J. Maynard.

Distribution: — Probably widespread in the Bahamas, for it is known from Mangrove Cay, Andros Island and New Providence Island, in addition to the type-locality.

Diagnosis:— Slender, medium sized, with small granular dorsals about seventeen equalling distance of tip of snout from centre of eye; on the sides these are enlarged and show a tendency to become keeled but they do not imbricate; upper head-scales very small; four large supralabials bordered above by about fourteen small scales of the basal loreal row.

Description:— M. C. Z. 13,564. Bahamas: Andros Island. Head narrow, snout acute; the distance from tip of snout to eye being about twice, or a little less, the diameter of the eye; rostral large with a median cleft; nostril between rostral, first upper labial, a large supranasal and two scales one distinctly enlarged; supranasals separated by one tiny scale adjoining the rostral; four large supralabials followed by a small labial below centre of the eye; the usual superciliary spine present but small and ill-developed; top of head covered with tiny rounded granular scales, slightly larger and flatter on the snout and loreal region; back with tiny granules hardly larger than those in the head about seventeen or eighteen equalling the distance of tip of snout from the centre of the eye; the lateral granules are somewhat enlarged but generally similar in character; scales of limbs very small except those on anterior face of thigh which are round and slightly imbricating; scales of throat very small those of postmental region much enlarged; scales of tail round, in whorls, imbricating; an enlarged subcaudal series; mental large followed by two scales.

Colour:— Male. Pale cream, the skin showing darker between the scales

[1] Types: — M. C. Z. 6,953. Bahamas: Andros Island, Mangrove Cay. 1-7 August, 1904. Owen Bryant. 19 Cotypes.

so that very close examination reveals a fine reticulate appearance, tail yellow. Colour singularly unvarying (Field notes). These males were the types of *S. flavicaudus* Barbour.

Colour:— Female. Brilliantly cross-banded with pairs of wavy cross-bars; the nuchal band usually very wide and dark and including a pair of white spots. Tail boldly ringed with black and white.

Dimensions:—		
	Tip of snout to vent	30 mm.
	Vent to tip of tail	26 mm.
	Greatest width of head	6 mm.
	Tip of snout to ear	7.5 mm.
	Fore leg	8 mm.
	Hind leg	10 mm.

Remarks:— I had supposed that *decoratus* and *flavicaudus* were distinct species. I had long known that they were very similar in squamation, I find now, however, that some specimens of each type are absolutely the same in squamation. The colour shows a sex-linked dichromatism such as is so conspicuous in *picturatus, scaber* and perhaps many other species of which now we only know one sex or the other. It may be looked for in *anthracinus* for example.

The species is rare on New Providence where only the banded females have been taken, so also on Rum Cay. Mr. Owen Bryant, however, found both sexes common in chinks and crannies of walls and houses at Mangrove Cay, Andros Island. In 1911 Dr. Rosén (Lunds univ. arsskrift, 1911, n. f. sers. 2, **7**, no. 5, p. 27) recorded its presence at Mastic Point also in Andros Island. Otherwise, it has not appeared in the literature. Its origin is probably to be traced to the Cuban *torrei* or to the immediate ancestors of that species.

2. Sphaerodactylus gibbus, sp. nov.

Plate **1**, fig. 2; Plate **10**, fig. 5–8.

Type-locality:— Stocky Island, Exuma Cays, Bahama Islands.

Types:— Type. M. C. Z. 13,436; Paratypes M. C. Z. 13,435, 13,437. C. J. Maynard.

Distribution:— The Exuma Cays. Maynard found it on Stocky Island and on a small Cay opposite Roseville, Exuma Island.

Diagnosis:— Heavily built, stocky, coarsely spotted with large dots; the

entire body covered with granules, the dorsals small rounded and tubercular, not keeled; the granules of the flanks slightly enlarged.

Description:— TYPE. M. C. Z. 13,436. Snout short and broad, not depressed but sharply declivous; eye slightly nearer tip of snout than ear; rostral moderate with a median groove; nostril between rostral, first supralabial, a large supranasal and one other scale; the supranasal of each side being separated from its fellow by a single median scale which fits in part into a reëntrant in the posterior border of the rostral; third large supranasal extending well under eye; superciliary spine well developed; head above and on sides covered with small round granules but slightly enlarged on the snout; considerably enlarged and flattened on loreal region; dorsal granules similar, somewhat larger but less in size than those of flanks; about sixteen middorsal granules equal the distance from tip of snout to centre of eye; mental large, much larger than rostral; two large postmentals followed by a few enlarged chin-shields; three large infralabials, suture between third and fourth (a small one) about beneath the centre of the eye; granules of throat very small, changing abruptly on posterior gular region to the roundish, flat, imbricate, smooth, ventrals; tail with fine small scales, not in conspicuous whorls, scales of under surface enlarged but apparently not to form the large transverse plates so often seen.

Colour:— Light reddish brown with large coarse dots of darker brown. Belly pale ashy gray. In some cases the spots are wholly wanting.

Dimensions:—	Tip of snout to vent	32 mm.
	Vent to tip of tail	27+mm.
	Greatest width of head	6.2 mm.
	Tip of snout to ear	9 mm.
	Fore leg	8.5 mm.
	Hind leg	10 mm.

Remarks:— This species is known only from the three specimens before me from the Exuma Cays. In habit and general appearance it is most like *pacificus* but the granules are very different in character and size.

Since writing the above Mr. C. T. Ramsden has shown me two spotted sphaerodactyls from Cuba (1 from Santiago, the other from Guantanamo) which in habit and squamation decidedly recall *torrei*. They differ, however, so widely in colouration that I have decided to let *gibbus* stand as a full species until *torrei* is shown to vary sufficiently to include it.

3. Sphaerodactylus torrei Barbour.

Plate 2, fig. 1, 2; Plate 11, fig. 1–4.

Sphaerodactylus torrei Barbour, Mem. M. C. Z., 1914, **44**, p. 260.
Sphaerodactylus sputator Boulenger (*non* Sparrman), Cat. lizards Brit. mus., 1885, **1**, p. 219 *et auct.*

Type-locality:— Santiago, Oriente, Cuba.

Types:— Type. M. C. Z. 6,916; two ~~Paratypes~~ Wirt Robinson. Paratypes M. C. Z. 8,508 Guantanamo, C. T. Ransden. M. C. Z. 8,510 Cabo Cruz, Cuba, Thomas Barbour.

Distribution:— Common in Eastern Cuba. Found in houses and in the woods to the higher altitudes of the Sierra Maestra. Dr. G. M. Allen collected a single specimen in Thomazeau, Haiti.

Diagnosis:— Short tailed, stocky, the females conspicuously banded, the males often uniform brown; scales granular about eighteen equalling distance of tip of snout to centre of eye.

Description:— M. C. Z. 8,510. Snout sometimes short and rather rounded, occasionally more acute; the distance from the tip of the snout to the eye being slightly greater than the distance between the eye and ear; rostral large with a median cleft behind; nostril between rostral, first labial, two or three small nasals and a rather large supranasal, which is separated from its fellow on the opposite side by a somewhat smaller roughly hexagonal scale, the three bordering the rostral above; four large or four large and one small, supralabials to below the centre of the eye; a spine on the superciliary margin above the centre of the eye; head above and on sides covered with fine granular scales, larger and flat upon the snout; scales of back all tiny round granules, about eighteen to twenty of which equal the distance from tip of snout to middle of eye; mental larger than rostral; two very large infralabials followed by two smaller ones to below the centre of the eye; two squarish, slightly elongate chin-shields behind the mental followed by some enlarged flat scales which grow smaller and pass gradually into the tiny scales of the midgular region; scales of chest and belly, rounded, flat and imbricate; scales of limbs and tail smaller than ventrals, smooth and imbricating; some subcaudals greatly enlarged.

Colour:— Females are grayish or light brown with varying cross-bands. These may be clearly defined with dark edges and pairs of white spots or they may appear simply as darker rather ill-defined, dusky transverse zones. Male specimens are uniform gray-brown or very faintly barred.

Dimensions:—	M. C. Z. 8,508. Total length	55 mm.
	Tip of snout to vent	29 mm.
	Vent to tip of tail	26 mm.
	Greatest width of head	5 mm.
	Tip of snout to ear	7.5 mm.
	Fore leg	6.5 mm.
	Hind leg	9 mm.

Remarks:— This species is very rare if it occurs at all outside of Oriente Province in Cuba. It is not especially rare there. It occurs in houses and under rocks and rubbish about the coastal plain; Cabo Cruz, Santiago, and Guantanamo. I have not seen it in the Sierra Maestra nor in the mountains about Guantanamo. There is, however, only this rather imperfect inference as to its being really confined to the lowlands.

4. Sphaerodactylus elegans MacLeay.

Plate 2, fig. 3; Plate 11, fig. 5–8.

Sphaeriodactylus elegans MacLeay, Proc. Zool. soc., London, 1834, p. 12.
Sphaerodactylus elegans Stejneger, Proc. U. S. N. M., 1917, 53, p. 266.

Type-locality:— Cuba, probably Guanabacoa.[1]

Types:— There is no published evidence that the types are still in existence.

Distribution:— Western and Central Cuba, the Island of Pines, and Mom-ance, Haiti.

Diagnosis:— Tiny, slender, with very minute granular scales of which about twenty-four or twenty-five are equal to the distance of the tip of the snout from the centre of the eye; only about six scales between nostril and the line of the suture between third and fourth supralabial. Colour always brilliantly cross-banded, tail coral-red below.

Description:— Adult M. C. Z. 7,921. Cuba: San Diego de los Baños, April, 1912. Thomas Barbour.

Snout rather pointed, the distance from the eye being about equal to the distance of the latter from the ear-opening; rostral rather large with a long median cleft behind; nostril between the rostral, first supralabial, a small post-

[1] For a notice of MacLeay's life in Cuba *cf.* Mario Sanchez, Mem. Soc. Cubana hist. nat. "Felipe Poey," 1916, ser. 2, 2, p. 73).

nasal and a distinctly larger supranasal which is separated from its fellow on the opposite side by a single median scale not very much smaller than one of the supranasals, these three scales border the rostral above; four large supralabials, on one side the third is divided, a common occurrence, the fourth supralabial below the centre of the eye; a spine on the superciliary margin above the centre of the eye; head above and on the sides covered with minute granular scales, slightly larger and flatter on the snout; scales of back very minute and granular; mental larger than rostral; two large and one small infralabial to below the centre of the eye; head above and on the sides covered with minute granular scales, slightly larger and flatter on the snout; scales of back very minute and granular; mental larger than rostral; two large and one small infralabial to below the centre of the eye; two small pentagonal chin-shields bordering mental between the large first infralabials followed by smaller flat scales which decrease in size and become extremely small on middle of throat; scales of chest and belly small, rounded, slightly imbricate; scales on upper surface of tail granular, below flatter with a median series of enlarged flat transverse plates.

Colour (in life):— Slaty gray above, rather light in tone; the head with two narrow bands between the eyes of much darker slate, the nape with two, the neck with two, and the body between fore and hind limbs with six cross-bands. On the tail there are five bands but the three hinder ones are simply spots. The distal three fifths of the tail is unmarked. The tail distally where unbanded, and wholly below, is rosy red. The belly is pinkish gray. The bands on the head extend to the chin but do not quite meet.

Dimensions:—	Total length	34 mm.
	Tip of snout to vent	17 mm.
	Vent to tip of tail	17 mm.
	Greatest width of head	4 mm.
	Tip of snout to ear	4.5 mm.
	Fore limb	5.5 mm.
	Hind limb	6.5 mm.

Remarks:— The most beautiful member of the genus and the smallest lizard in the world. Common in houses it is so extremely small and so retiring in its habits that securing a series is no easy task. It is rarely seen out of doors, but its minute size may also in part account for this.

5. Sphaerodactylus cinereus Wagler.

Plate 2, fig. 4; Plate 12, fig. 1–4.

Sphaeriodactylus cinereus Wagler, Syst. Amph., 1830, p. 143 (based on Lacépède's *sputateur*).
Sphaerodactylus alopex Cope, Proc. Acad. nat. sci. Phil., 1861, p. 449.[1]
Sphaerodactylus punctatissimus Boulenger, Cat. lizards, Brit. mus., 1885, **1**, p. 220.
Sphaerodactylus oxyrrhinus Fischer (*non* Gosse), Bericht. Naturh. mus. Hamburg, 1888, 1887, p. 23.
Sphaeriodactylus argus Gundlach (*non* Gosse), Erp. Cubana, 1880, p. 59.
Sphaerodactylus cinereus Stejneger, Proc. U. S. N. M., 1917, **53**, p. 266.

Type-locality:— Haiti.

Types:— Museum Hist. Nat. Paris?

Distribution:— Common in Western and Central Cuba much less so in the Eastern province, Oriente. It seems also to be uncommon in Haiti and the Island of Pines.

Diagnosis:— Large, the dorsal scales being small, granular and round; about eighteen equalling the distance from tip of snout to centre of eye; scales on upper surface of snout enlarged and plate like, those between orbits excessively small. No conspicuous colour-pattern.

Description:— Adult M. C. Z. 7,916. Cuba: San Diego de los Baños, April, 1912. Thomas Barbour.

Snout rather flat and pointed, the distance from the tip to the eye being slightly longer than the distance from the eye to the ear-opening; nostril between rostral, first supralabial, a single small postnasal and a much larger supranasal which is separated from its fellow on the opposite side by a single much smaller median scale, these three bordering the rostral above; four large supralabials to the centre of the eye; a spine on the superciliary margin over the centre of the eye; head above and on sides covered with very fine granules, those of the snout much enlarged and flattened; scales on back small and granular, about eighteen equalling the distance of tip of snout to centre of eye; mental large, larger than rostral; two large and one small roughly pentagonal chin-shields which are followed by flat, pavement-like scales which pass gradually into tiny round scales of the middle throat; belly with enlarged, smooth, rounded imbricate scales; tail with smooth, round imbricating scales above and below, also a series of wide plates below on the median line.

Colour (in life):— Uniform gray, lighter below; above finely punctate with white, streaked with fine white lines on side of head and neck. In some specimens the white appears as distinct vermiculations on the head and anterior body-

[1] Types: — M. C. Z. 3,343. Haiti: Grand Anse River. D. F. Weinland. 4 Cotypes.

regions; again the vermiculations may appear to be dark upon a light ground-colour; there is considerable variation. Never, however, has any tendency to cross-banding been observed, the striping is invariably longitudinal.

Dimensions:—	Total length	76 mm.
	Tip of snout to vent	35 mm.
	Vent to tip of tail	41 mm.
	Greatest width of head	6 mm.
	Tip of snout to ear	9 mm.
	Fore limb	10 mm.
	Hind limb	11 mm.

Remarks:— A common, perhaps the commonest of the house-inhabiting members of the genus. It becomes quite tame and fearless and its smooth satin-like skin make it extremely attractive to observe. It is the only one of the large members of the genus which does not have much enlarged, imbricating scales. The flat depressed snout and forehead are quite characteristic, as is the beautiful dove-gray colouration, either finely punctate or with short vermiculate longitudinal markings.

For years I have searched in vain for the young of this species. I have never found the freshly emerged. Therefore, and not without reason, I felt that possibly *elegans* might represent the young of *cinereus;* until finally in the woods of the high Sierra Maestra at a tiny mountain hamlet called Pozo Prieto de los Negros en Jiguaní, I found a half-grown individual. This, with two adults found in the dark high forest near by, was coloured very differently from the great store of adults I had found in houses in many places. They were darker and the scattered white spots had distinct dark borders so that all three were speckled with many fine ocelli. They may represent a local race. Anyway the type of colouring is one often assumed by forest-living forms, as witness Lepidophyma. I once thought that *nigropunctatus* was the species which Gundlach confused with the Jamaican *argus* but I am now convinced it was this eastern forest-loving *cinereus* which he had.

The name *cinereus* has commonly been ascribed to MacLeay, P. Z. S., 1834 p. 12. This, however, is not correct. Dr. Stejneger calls my attention to the fact that Wagler recognized that Lacépède's *sputateur* was a composite species and he leaves the "Gecko sputateur á bandes" as *S. sputator* Sparrmann (now *S. copei*) while Wagler names the plain coloured specimen figured by Lacépède, Quad. Ovip., 1788, 1, pl. 28, fig. 1, *Sphaerodactylus cinereus.*

6. Sphaerodactylus intermedius Barbour & Ramsden.

Plate 1, fig. 5; Plate 12, fig. 5–8.

Sphaerodactylus intermedius Barbour and Ramsden, Mem. M. C. Z., 1919, **47**, p. 211.

Type-locality:— The Sierra de Hato Nuevo between Hato Nuevo (Martí) and Sabanilla de la Palma in the northwestern portion of Matanzas Province, Cuba.

Types:— Type. M. C. Z. 12,305; Paratype M. C. Z. 13,726. Thomas Barbour.

Distribution:— The type-locality.

Diagnosis:— Slender, rather small, with tiny granular dorsals about eighteen equalling distance of tip of snout from centre of eye; chin-shields of front mental area much enlarged; supralabials small, fifth under centre of eye.

Description:— Type. Snout rather long; moderately declivous; rather acute; the distance from the tip of snout to the eye being slightly greater than from eye to ear; rostral large with a long median cleft behind; nostril between rostral, first upper labial and with two or three postnasals and an enlarged supranasal which is separated from its fellow on the opposite side by two scales in holotype, one in paratype; four large and one small supralabial to below the centre of the eye; a very feebly developed spine on the upper eyelid; head above and on sides covered with fine granular scales, enlarged on the snout; scales of back round, juxtaposed, also granular; about 18 or 19 scales in a single straight series of dorsals in the distance from tip of snout to eye; mental large, two postmentals; one very large, one medium and two small infralabials to below the centre of the eye; scales of chin and anterior chest-region very small, flat, nonimbricating, belly-scales larger, round, flat, imbricating; no regular series of enlarged scales under the slender tail which is covered with circular series of rounded, slightly imbricating flat scales.

Colour (of fresh specimens): — Body uniform brown, tail brown at base fading into dirty yellow distally, tip pure white. A whitish horse-shoe mark from eye around the occiput followed by a pair of black bands separated by a dirty white area; then a duskier zone followed by another similar pair of dark bands separated by a lighter region. A very faint suggestion of another pair of dark bands in the humeral region but the remainder of the body rather uniform in colour, except for a few short dusky spots and some transverse series, very short, of extremely minute ivory-white dots.

Dimensions:—	Total length	43 mm.
	Tip of snout to vent	22 mm.
	Vent to tip of tail	21 mm.
	Width of head	4 mm.
	Fore leg	6 mm.
	Hind leg	8 mm.

Remarks:— The only two specimens of this lizard which I have ever seen are the two types discussed. They were found the same day under loose stones on a dry, rather open, scrubby, hillside pasture. This species is more slender than *torrei* and is much larger with a less acuminate snout than *elegans;* it differs likewise in colouration. The two specimens in hand are exactly alike in pattern.

7. Sphaerodactylus pacificus Stejneger.

Plate **1**, fig. 3; Plate **13**, fig. 1–4.

Sphaerodactylus pacificus Stejneger, Proc. Biol. soc. Wash., 1903, **16**, p. 3.

Type-locality:— Cocos Island, western coast of Costa Rica.

Types:— Type. U. S. N. M. 31,057, P. Biolley. Four Paratypes.

Distribution:— The type-locality.

Diagnosis:— Large, very stockily-built, with tiny keeled granular dorsals about twenty-three or twenty-four of which equal the distance between tip of snout and centre of eye; having two scales separating the large supranasals and anterior to this pair a single small scale wedged in the posterior cleft of the rostral. Ear-opening horizontal.

Description:— Paratype (U. S. N. M. 31,058). M. C. Z. 13,727. Snout not conspicuously pointed, a little longer than distance from eye to ear, about once and two thirds the diameter of eye; nostril small between rostral, first labial, a large supranasal, and one or two very small scales; rostral large, cleft above, the cleft including the small scale anterior to the pair separating the supranasals; four supralabials to below centre of the eye; the usual supraorbital spine present; top of head covered with small keeled granules somewhat larger and flatter on the anterior portion of the snout; back covered with minute keeled, granular scales which show a slight tendency to imbricate; about twenty-three or twenty-four equalling distance of tip of snout from the centre of the eye; ventrals enlarged and imbricate; tail cylindrical, tapering, covered above with irregular flat pavement-like scales smaller than ventrals; tail without median

transversely dilated shields on its ventral surface (*fide* Stejneger these are present in the type).

Colour:— Light brown; head and body with longitudinal darker and lighter wavy bands.

Dimensions:— Adult Type (after Stejneger).

Tip of snout to vent	47 mm.
Vent to tip of tail	35 mm.
Greatest width of head	6.5 mm.
Tip of snout to ear	11 mm.
Fore leg	14 mm.
Hind leg	18 mm.

Remarks:— An ally of *S. lineolatus* from which it may be distinguished in size, bulkier form, different colouration, different postrostral squamation, and smaller and more conspicuously keeled scales on top of the head.

8. Sphaerodactylus molei Boettger.

Plate 1, fig. 4; Plate 13, fig. 5–8.

Sphaerodactylus molei Boettger, Journ. Trinidad field nat. club, 1894, 2, p. 80.

Type-locality:— Caparo, Trinidad.

Type:— Senckenberg Museum, Frankfort am Main. R. R. Mole.

Distribution:— Lowlands and high forests of Trinidad where it seems to be decidedly rare.

Diagnosis:— Small, generally with a pair of longitudinal white stripes on the body, with fine keeled granules on the body about twenty of which equal the distance from tip of snout to centre of eye.

Description:— M. C. Z. 12,055. Trinidad: Guiaco. H. L. Clark. Snout long and narrow, depressed; eye nearer ear than tip of snout; rostral large with median groove; nostril between rostral, first supralabial, a large round supranasal and three small scales; fourth large labial below centre of eye; superciliary spine present; head above and on sides covered with small round scales on hinder part and anteriorly with elongate, weakly keeled, rather flat, nonimbricating scales, larger on snout; scales of back very small, keeled, nonimbricating granules, about twenty of which equal the distance of tip of snout from centre of eye; mental large, fourth infralabial below centre of eye; scales between two anterior infralabials considerably enlarged, four bordering mental

posteriorly; scales of throat very small, increasing until the belly-scales are reached which are well enlarged, smooth, round, and imbricating; tail reproduced.

Colour:— Light grayish brown with two conspicuous white bands beginning on the snout passing along each canthus and down each side of the body and out on the tail. Lower surfaces white. The white lines are very conspicuous on head and neck but become very faint on the body in M. C. Z. 8,993, from Arima, Trinidad, R. Thaxter.

Dimensions:—		
	Tip of snout to vent	25 mm.
	Vent to tip of tail	?
	Greatest width of head	3.75 mm.
	Tip of snout to ear	7 mm.
	Fore leg	5 mm.
	Hind leg	7.5 mm.

Remarks:— I have no information as to the habits of this species. The three specimens which have reached the Museum, the only ones obtained by such diligent collectors as Prof. Roland Thaxter and Dr. H. L. Clark, were all found in heavy forest. Dr. Ruthven has recently received this species from British Guiana.

9. Sphaerodactylus lineolatus Lichtenstein.

Plate 4, fig. 1, 2; Plate 14, fig. 1–4.

Sphaerodactylus casicolus Cope, Proc. Acad. nat. sci. Phil., 1861, p. 499.[1]
Sphaerodactylus inornatus Peters, Monatsb. Akad. wiss. Berlin, 1873, p. 738.[2]
Sphaerodactylus homolepis Cope, Proc. Amer. philos. soc., 1886, **23**, p. 277.[3]

Type-locality:— Veragoa (*sic*). Veragua, Republic of Panama.

Types:— Berlin Museum, three cotypes.

Distribution:— Lower Central America, Guatemala, Nicaragua, Costa Rica, and Panama.

Diagnosis:— Medium size, with very small, juxtaposed, keeled, granular dorsal scales, about twenty-one or twenty-two equalling distance of tip of snout from centre of eye; supranasals very large; scales of snout distinctly larger than those of interorbit.

[1] Types: lost. Truando region, Colombia.
[2] Type: Berlin Mus. 4,589. Mexico. Uhde Coll.
[3] Type: — U. S. N. M. 14,207. Nicaragua. J. N. Bransford. A very young specimen, absolutely dry.

Description:— M. C. Z. 10,937. Panama Bay: Saboga Island, 1904. W. W. Brown. Snout medium and rounded; eye nearer tip of snout than ear; rostral moderate with median groove; nostril between rostral, first supralabial, a large supranasal and one small scale; a single scale separating the supranasals of each side (sometimes the supranasals are separated by a linear series of small scales) fifth supralabial below the centre of the eye; superciliary spine present; head above and on sides covered with small, juxtaposed, swollen granules, those of snout much larger and flatter, scales of back extremely small, juxtaposed granules, the centre of each swollen into what might be considered a keel, about twenty-one or twenty-two equalling the distance between the tip of snout and centre of the eye, mental large, several distinctly enlarged postmentals, gular scales small, roundish, juxtaposed; scales of belly much larger than gulars or dorsals, smooth, very slightly imbricate; scales of limbs enlarged, smooth or very feebly keeled, distinctly imbricate; scales of tail, small, flat not forming distinct whorls, enlarged plates below.

Colour:— Young with bold cross-bars as follows:— one across neck, one just behind insertion of fore limbs, one broken on midbody region, one lumbar and four on tail. Adults often dotted with dark brown on a light brown ground. The dots usually in lines. The head and neck is frequently vermiculated with white lines. Some specimens are uniform brown without any marking whatever.

Dimensions:—		
	Tip of snout to vent	29 mm.
	Vent to tip of tail	?
	Greatest width of head	5.5 mm.
	Tip of snout to ear	8 mm.
	Fore limb	7.5 mm.
	Hind limb	8.5 mm.

Remarks:— This species shows very marked variation in colour, some of the phases may be correlated with locality but our material does not show this. Since the other Central American form, *glaucus*, has enlarged, smooth, imbricate dorsals there does not seem to be any question but that the animal in hand is really Lichtenstein's *lineolatus* in view of the type-locality and the description, "Squamis dorsi aequilibus, granularibus. Rufescens, capite supra linea mediana et utrinque tribus lateralibus nigricantibus ornato dorso fusco-vermiculato. Long. a rostro ad caud. bas. 1¼" caud. 1¼" ".

This species seems to range widely through Lower Central America while

glaucus is more northern in its range. Both species are known, however, from Guatemala. Peters's type of *inornatus*, apparently a synonym of this species, is said to have come from Mexico, far from the known range of *lineolatus*. It is more probable that the locality is incorrect than that Peters so noted for his precise and careful observing would have missed the peculiar dorsal squamation of *glaucus*.

10. Sphaerodactylus glaucus Cope.

Plate **14**, fig. 5–8.

Sphaerodactylus glaucus Cope, Proc. Acad. nat. sci. Phil., 1865, p. 192.
Sphaerodactylus torquatus Strauch, Mem. Acad. sci. St. Petersb., 1887, ser. 7, **35**, p. 35.[1]
?*Sphaerodactylus argus continentalis* Werner, Verh. Zool.-bot. ges. Wien, 1896, **46**, p. 345.[2]
?*Sphaerodactylus argus* Meerwarth (*non* Gosse), Mittl. Naturh. mus. Hamburg, 1900, **18**, p. 19.[3]

Type-locality:— Near Merida, Yucatan, Arthur Schott.

Types:— U. S. N. M. 6,572 three Cotypes, one perfect from which the description was evidently drawn: one Cotype M. C. Z. 13,570.[4]

Distribution:— Apparently characteristic of Mexico and Upper Central America, as *lineolatus* is of Lower Central America. A conspicuous exception being the fact that the type of Peter's *inornatus* which seems referable to *lineolatus* as a synonym was said to have come from Mexico, possibly through some metathesis of data.

Diagnosis:— Rather small, slender, narrow headed, with small, smooth, imbricate dorsals and with no granular middorsal zone.

Description:— Cotype M. C. Z. 13,570 (U. S. N. M. 6,572, part). Snout rather short not conspicuously depressed nor acute; eye slightly nearer tip of snout than ear-opening; rostral rather small with a median groove; nostril between rostral, a rather small supranasal and two small scales one occluding the nostril from the first supralabial; the supranasal of each side separated from its fellow of the opposite side by a single small scale; the suture between the third (large) and fourth (a very small) supralabial under the centre of the eye; superciliary spine present; head above and on sides covered with small, roundish granular or very slightly imbricating almost smooth scales those on snout somewhat enlarged; scales of back slightly enlarged, smooth, imbricate about fourteen

[1] Types: — Petrograd Mus. Mazatlan, Mex. 1871. Salmin. 3 Cotypes.
[2] Types: — Petrograd Mus. Honduras.
[3] Type:— Hamburg Mus. 1,733a. Costa Rica. Nepperschmidt.
[4] Three badly macerated specimens Academy nat. sci. Phila., 7,553–7,555 Machuca, Nicaragua, J. N. Bransford, are not types.

equalling the distance from tip of snout to centre of eye; mental much larger than rostral; two slightly enlarged postmentals and a few chin-shields slightly enlarged; ventrals smooth, imbricate, rounded, slightly larger than dorsals; scales of limbs rather similar to scales of body.

Colour:— Pale gray, no markings. The specimens examined are evidently badly bleached.

Dimensions:—	Tip of snout to vent	25 mm.
	Vent to tip of tail	?
	Greatest width of head	4 mm.
	Tip of snout to ear	7 mm.
	Fore leg	7 mm.
	Hind leg	8.5 mm.

Remarks:— As to the habits or occurrence in life of this species nothing is known. It appears in so very few of the many collections made in Mexico and Central America that it must be very rare. Dr. L. J. Cole made a very extensive collection of reptiles in Yucatan for this Museum in 1904 but though he collected in Merida the type-locality of this species he never found it there or elsewhere.

11. Sphaerodactylus difficilis Barbour.

Sphaerodactylus difficilis Barbour, Mem. M. C. Z., 1914, **44**, p. 265.

Type-locality:— Santiago de la Vega, San Domingo.

Type:— Type. M. C. Z. 7,834. Paratype M. C. Z. 7,835. A. H. Verrill. Two Paratypes M. C. Z. 5,444 Puerto Plata. M. Abbott Frazar.

Distribution:— Haiti and San Domingo.

Diagnosis:— Small, slender, having moderately small weakly keeled, imbricate scales about nine equalling the distance of tip of snout from centre of eye; head and neck with longitudinal markings or the head, neck and body speckled.

Description:— Type. M. C. Z. 7,834. Snout rather short, not conspicuously acute; distance of eye from tip of snout and ear about equal; rostral moderate with median grove; nostril between rostral, first supralabial, a large supranasal and two smaller scales; two small scales border the rostral behind with the supranasals; three large and one small supralabial to below centre of eye; superciliary spine present; head above and on sides covered with small, elongate, juxtaposed, keeled scales, those on snout enlarged; scales on back

enlarged, elongate, slightly keeled, imbricate about nine or ten equalling the distance from tip of snout to centre of eye; mental large, nearly same size as rostral; two large infralabials followed by a small one to below centre of eye; two small, squarish chin-shields behind mental, followed by flat smaller scales, which cover throat, enlarged but smooth on neck and chest, still larger on belly; limbs with smaller, keeled, imbricate scales; similar on upper surface of tail, but smooth below, enlarged irregular transverse plates below.

Colour:— Gray flecked with brown spots, often with longitudinal dark marking on head and neck. Shoulders with or without a pair of white dots, which may or may not be ringed with darker to form a spectacle-like mark. There may be a faint similar mark on the sacral region.

Dimensions:—	Tip of snout to vent	28 mm.
	Vent to tip of tail	31 mm.
	Greatest width of head	5 mm.
	Tip of snout to ear	8 mm.
	Fore leg	8 mm.
	Hind leg	9.5 mm.

Remarks:— This species is very closely related to *notatus* and is probably annectent between that species and *macrolepis*. It is widespread throughout San Domingo and Haiti.

12. Sphaerodactylus festus Barbour.

Plate 3, fig. 1; Plate 15, fig. 1–4.

Sphaerodactylus festus Barbour, Proc. Biol. soc. Wash., 1915, **28**, p. 13.

Type-locality:— Fort de France, Martinique.

Types:— Type. M. C. Z. 10,622. Paratypes M. C. Z. 10,623 and Museum of Zoology, University Michigan.

Distribution:— Martinique.

Diagnosis:— Rather small, with medium sized broad, keeled, imbricate dorsals about fourteen equalling distance of tip of snout to centre of eye; no middorsal zone; scales of upper surfaces of head small and slightly enlarged upon snout; a large postnasal and four small scales in distance from nostril to above the suture of second and third upper labial.

Description:— Type. M. C. Z. 10,622. Snout short but acute; the distance from the tip to the eye being slightly less than from the posterior border of

the eye to the ear-opening, not quite twice the diameter of the eye; rostral rather large with long median cleft behind; nostril between rostral, first supralabial, a single rather large postnasal and a larger supranasal which is separated from its fellow of the other side by a single small scale these three bordering the rostral above; three large supralabials to the centre of the eye; head above and on the sides covered with small, rounded, granular or tubercular scales; those on back small, keeled, very slightly imbricate, fourteen equivalent to the distance from tip of snout to centre of eye; mental large, longer than rostral; one very large, one medium sized and one small infralabial to below the centre of the eye; two small chin-shields behind mental followed by a series of five flat smaller scales, scales of throat and lower neck uniform in size, flat and polygonal; on chest and belly larger, flat and slightly imbricate. Scales of limbs small, elongate, imbricate and keeled; of tail above whorls of small pointed imbricate slightly keeled or flat scales, below with a median series of large hexagonal plates with several lateral series of smaller flat scales.

Colour:— Almost uniform brown above with very faintly indicated chevron shaped lighter markings on hind neck and sacral regions.

Remarks:— This species is evidently one of the medium sized forms, being considerably larger than *torrei* from Cuba, of course far larger than *elegans*, and not reaching to anything like the size of *copei* from Haiti, *anthracinus* Andros or *richardsonii* from Jamaica which are the largest species in the genus. In no one of the three examples before me is the tail perfect, but the length of the largest specimen (Paratype Univ. Mich. Mus.) from snout to vent is 30 mm. The type is not quite so large, but all the specimens are evidently adult.

13. Sphaerodactylus goniorhynchus Cope.

Plate 4, fig. 3; Plate 15, fig. 5–8.

Sphaerodactylus goniorhynchus Cope, Proc. Acad. nat. sci. Phil., 1895 (1894), p. 440.
Sphaerodactylus gilvitorques Barbour (*non* Cope), Bull. M. C. Z., 1910, **52**, p. 291, Mem. M. C. Z., 1914, **44**, p. 267.

Type-locality:— Port Antonio, Jamaica.

Types:— Not known.

Distribution:— Jamaica. A woodland species which is found under leaves and decaying trash from sea-level to the summits of the Blue Mountains. It is very rare in the dry, semiarid regions such as the plains near Kingston and Spanishtown.

Diagnosis:— Small, dark brown, with somewhat enlarged, elongate, keeled, imbricate dorsal scales about fourteen or fifteen equalling distance of tip of snout from centre of eye; no middorsal zone of small scales, upper head scales very minute, scales on snout slightly more elongate but scarcely wider than those of vertex; supranasals widely separated by about five small scales. Ventrals keeled.

Description:— M. C. Z. 13,594. Jamaica: Constant Springs, near Kingston, 1909. Thomas Barbour.

Snout very short, rather rounded; eye distinctly nearer tip of snout than ear; rostral large with long median groove; nostril between rostral, a small supranasal and two or three small scales which may or may not occlude the nostril from the first supralabial; supranasals of either side separated by a considerable number of very small granules which fill a shallow reëntrant area in the posterior part of the rostral; suture between third and fourth supralabial below the centre of the eye; superciliary spine present; top and sides of head covered with excessively fine granules not or scarcely enlarged on snout; dorsals very small, keeled, slightly imbricate, about fourteen equalling the distance of tip of snout from centre of eye; mental large followed by many small, scarcely enlarged postmentals; throat-scales round juxtaposed. Ventrals slightly larger than dorsals, imbricate, feebly but distinctly keeled; limbs also with very small overlapping keeled scales; scales of tail likewise all excessively small, keeled and not arranged in whorls; greatly enlarged plates below.

Colour:— Rich mahogany-brown; a usually very distinct dark middorsal zone composed of confluent rhombs, those on tail often separate; often a light line along upper sides of the upper proximal half of tail.

Dimensions:—	Tip of snout to vent	22 mm.
	Vent to tip of tail	20 mm.
	Greatest width of head	3.25 mm.
	Tip of snout to ear	5 mm.
	Fore leg	5.75 mm.
	Hind leg	8 mm.

Remarks:— A beautiful and always very tiny little lizard; widespread in Jamaica and everywhere rare. It is invariably found in wooded country and in the heavy forests of the Blue Mountains it occurs right to the summit of the high wooded peaks. It was frequently caught when tearing up rotten logs in searching for Peripatus, although more of the latter than of the sphaerodactyls were

found. The little white eggs were often met with in old termite galleries or under bark and one young lizard which emerged when I broke an egg was at full term and measured 19 mm. from snout to tip of tail and was much more slender in habit than the adult which are quite stockily built.

14. Sphaerodactylus oxyrrhinus Gosse.

Plate 5, fig. 1; Plate 16, fig. 1–4.

Sphaerodactylus oxyrhinus Gosse, Ann. mag. nat. hist., 1850, ser. 2, 6, p. 347.
Sphaerodactylus dacnicolor Barbour, Bull. M. C. Z., 1910, 52, p. 292, pl. 1.[1]

Type-locality:— St. Elizabeth's, Jamaica.

Type:— British Museum. P. H. Gosse.

Distribution:— Apparently, a rare species of sporadic occurrence throughout Jamaica.

Diagnosis:— Medium size, with a very sharp, depressed snout; dorsal scales very small, almost granular but slightly imbricate about fourteen equal the distance from tip of snout to centre of eye; body spotted, a distinct spectacle marking on sacrum.

Description:— M. C. Z. 7,276, the larger Cotype of *S. dacnicolor* Barbour. Snout long, pointed, slender and depressed; eye nearer ear than tip of snout; rostral very large with a long median groove; nostril between rostral, (first supralabial, a large supranasal and a single rather large postnasal; one small scale separates the large supranasal of each side; posterior portion of fourth large supralabial under centre of eye; superciliary spine prominent; head above and on sides covered with small granular scales, but slightly enlarged upon the snout; scales of back small, very slightly imbricate, keeled, about fourteen equal to the distance of tip of snout from centre of eye; mental as large as rostral; fourth infralabial beneath centre of eye; two smallish chin-shields behind mental followed by some enlarged flat pavement-scales, smaller on hinder part of throat; scales of chest and belly, round, imbricate, smooth; scales of limbs small, rounded, some slightly imbricating other tubercular, generally feebly keeled; tail with very small scales not in distinct whorls, enlarged plates below.

Colour:— Lavender-gray with many dusky spots; a pair of white spots on the sacral region enclosed in a dusky spectacle-mark.

[1] Types: — M. C. Z. 7,276. Jamaica: Port Antonio. A. E. Wight. 2 cotypes.

Dimensions:—	Tip of snout to vent	30 mm.
	Vent to tip of tail	26 mm.
	Greatest width of head	5.5 mm.
	Tip of snout to ear	7.75 mm.
	Fore leg	7.5 mm.
	Hind leg	9 mm.

Remarks:— I have seen but very few specimens of this rare species. Nevertheless, I am convinced that my *dacnicolor* is Gosse's *oxyrrhinus*. No information has come to hand regarding its habits or occurrence in Jamaica.

15. Sphaerodactylus argivus Garman.

Plate 5, fig. 2; Plate 16, fig. 5–8.

Sphaerodactylus argivus Garman, Bull. Essex inst., 1888, **20**, p. 3.

Type-locality:— Caymen Brac. C. J. Maynard.

Types:— Cotype. M.C.Z.13,597. Cotypes. M.C.Z.6,223 (7 specimens).

Distribution:— The type-locality.

Diagnosis:— Medium size, having small keeled imbricate dorsals; about fourteen or fifteen equalling the distance from tip of snout to middle of eye; about fourteen small scales in a row between the orbits; no ocelli nor conspicuous colour-pattern; this species also lacks the two lateral crescentic grooves in the rostral seen in *argus*.

Description:— M. C. Z. Cotype. 13,597: Cotype M. C. Z. 6,223. Snout rounded, short; eye slightly nearer tip of snout than ear; rostral with median groove; nostril between rostral, a large supranasal and two or three small scales which almost or quite occlude it from the first supralabial; fourth, a small, supralabial lying under centre of eye; superciliary spine present; head above and on sides covered with very fine granules, slightly larger on snout; dorsals very small, keeled, slightly imbricating about fourteen equal to distance of tip of snout from centre of eye; mental larger than rostral; a few enlarged postmentals; gular scales small, flat and roundish; ventrals overlapping, larger than dorsals, perfectly smooth; limbs covered with very small smooth scales; scales of tail small, not forming whorls; medium sized enlarged plates below.

Colour:— Reddish gray, speckled with darker a few lighter specks or dots, no ocelli.

Dimensions:—	Tip of snout to vent	26.5 mm.
	Vent to tip of tail	7 mm. reproduced.
	Greatest width of head	4.25 mm.
	Tip of snout to ear	7.5 mm.
	Fore limb	7 mm.
	Hind limb	8.5 mm.

Remarks:— Nothing is known regarding the habits or occurrence of this distinct derivation of the *argus* stock.

16. Sphaerodactylus nigropunctatus Gray.

Plate 3, fig. 2; Plate 17, fig. 1–4.

Sphaerodactylus nigropunctatus Gray, Cat. lizards Brit. mus., 1845, p. 168.

Type-locality:— South America.[1]

Type:— British Museum. A single specimen.[2]

Distribution:— The Province of Oriente, Cuba, where it is rare.

Diagnosis:— Long, slender, very small headed, with tiny but distinctly keeled and imbricate scales; it is unique in having four scales bordering the rostral behind and between the supranasals.

Description:— Adult M. C. Z. 8,536. Cuba: Guantanamo, Monte Libano, 1914. C. T. Ransden.

Snout rather short and blunt, the distance from the tip to the eye being less than that of the eye from the ear; rostral moderate with a very long median cleft behind; nostral between rostral, first supralabial, one postnasal and a very small supranasal, which is separated from its fellow on the opposite side by four small scales, these six scales bordering the rostral posteriorly; three large and one small supralabial to below the centre of the eye; a small spine on the superciliary margin above the centre of the eye; head above and on sides covered with very minute granules, but slightly enlarged upon the snout; scales of back small, somewhat elongate, keeled and very slightly imbricate about thirteen in a straight series equalling the distance of tip of snout from centre of eye; mental moderate, as large as rostral; one very large lower labial followed by a medium and a small infralabial to below the centre of the eye; two small squarish chin-shields behind

[1] Boulenger (Cat. lizards Brit. mus., 1885, **1**, p. 220) states that the type is without data.

[2] According to Gray this specimen belonged to Leadbeater. Boulenger, however, makes no mention of this fact. Until the type can be reëxamined it is uncertain that these Cuban specimens are correctly assigned.

the mental followed by a small group of slightly enlarged scales passing quickly into the small scales of the gular region; scales of chest and belly rounded, smooth, imbricate; scales of tail smaller, irregularly arranged, rounded, smooth, imbricate, with only a very faintly defined series of enlarged scales.

Colour:— Rich dark mahogany-brown specked with darker, a light streak around the head and a series of light dots across the nape.

Dimensions:—	Total length	55 mm.
	Tip of snout to vent	29 mm.
	Vent to tip of tail	26 mm.
	Greatest width of head	4 mm.
	Tip of snout to ear	5.5 mm.
	Fore limb	6.5 mm.
	Hind limb	8.5 mm.

Remarks:— As I understand this species now the only specimens which I have seen are a few taken by my friend C. T. Ramsden in the mountainous and heavily forested region about Guantanamo, Cuba. It is a very rare and little-known form.

17. Sphaerodactylus buergeri Werner.

Sphaerodactylus buergeri Werner, Verh. Zool.-bot. ges. Wien, 1900, **50**, p. 264.

Type-locality:— Port of Spain, Trinidad.

Type:— Vienna Museum. Otto Buerger. 1897.

Distribution:— Trinidad.

Diagnosis:— Medium size, with rhombic, imbricate, keeled scales; with broad dark bands on back and sides, the former of which forks to each supraocular region.

Description (Translated): —

"Snout not quite twice as long as the diameter of the eye, somewhat longer than the distance of eye from ear-opening, rounded anteriorly; ear-opening small, rounded, a little larger than one of the finger disks. Rostral small, horseshoe-shaped with median groove. Nostril between rostral, first supralabial, a supranasal and two postnasals. Five upper and five lower labials. Mental rather large, rounded posteriorly, behind this polygonal shields which pass gradually into granules. Upper surfaces with rhomboid, imbricate, keeled scales. Belly-scales much larger, smooth, similarly imbricating. The scales of the under side of the tail, larger than the upper but no enlarged midrow.

Colour: Upper surface light brown with somewhat darker side bands and a dark dorsal band, which forks on the scapular region and sends a branch to each supraocular region. The two forked branches and the temporal portion of the lateral stripe are edged with darker. The dorsal and lateral bands are bordered with white on the tail as also on the back. Lower sides white, chin finely punctate with dark spots, labials spotted with dark also."

Unfortunately this description does not allow us even to surmise what may be the affinities of *buergeri* but if one may hazard a guess it is far from improbable that the difference from *molei* which are assumed may be due to the difference in the methods of observing by Boettger and Werner; for I strongly suspect that both had the same species.

18. Sphaerodactylus argus Gosse.

Plate 4, fig. 4; Plate 17, fig. 5–8.

Sphaerodactylus argus Gosse, Ann. mag. nat. hist., 1850, ser. 2, 6, p. 347.

Type-locality:— Jamaica. "Common in houses, in corners, and crevices."

Types:— British Museum. A series of specimens. P. H. Gosse.

Distribution:— Found very abundantly throughout the lowland regions of Jamaica. It occurs at Mandeville but was not found in the highlands of eastern Jamaica by the writer in 1909. It is very abundant in houses as well as in suitable situations about cultivated and wild areas.

Diagnosis:— Medium size, with small, keeled, slightly imbricate scales, about ten or eleven equalling distance from tip of snout to centre of eye; about fourteen small scales between the orbits; a colouration of many distinct minute ocellated spots.

Description:— M. C. Z. 13,593. Jamaica: Constant Springs near Kingston, 1909. One of a large series (M. C. Z. 7,345). Thomas Barbour.

Snout rounded, short; eye slightly nearer tip of snout than ear; rostral small with median groove, and a crescentic groove on each half of the rostral as well; nostril between rostral, a large supranasal and three small scales which almost always occlude it from the first supralabial; suture of fourth and fifth supralabial below the centre of the eye; superciliary spine present; head above and on sides covered with small homogeneous granules, distinctly enlarged on snout; dorsals small, keeled, slightly imbricating; about eleven equal the distance from tip of snout to centre of eye; mental larger than rostral; followed by a few enlarged postmentals; gular scales small flat, roundish; ventrals overlapping, larger than dorsals, perfectly smooth; limbs partly covered with small granules and partly with small, round, imbricate, smooth scales; scales of tail rounded, smooth, strongly imbricate, not forming whorls; large plates present on lower surface.

Colour:— Reddish or brownish with fine light spots on back and sides; on

the head and neck these occur in definite straight series. Tail less distinctly spotted, coral-red below in life.

Dimensions:—	Tip of snout to vent	27 mm.
	Vent to tip of tail	25 mm.
	Greatest width of head	4.75 mm.
	Tip of snout to ear	6.5 mm.
	Fore leg	6.5 mm.
	Hind leg	8 mm.

Remarks:— This stockily-built, short limbed, little species is one of the most abundant of the whole genus. I secured nearly an hundred at Constant Springs near Kingston and found it common at Mandeville, while years ago Dr. Henry Bryant collected it at Moneague. It was not found in the highland forests of the Blue Mountains where *goniorhynchus* occurs to the very summits. Meerwarth (Mitth. Naturh. mus. Hamburg, 1900, **18**, p. 19) records a specimen of this species from Costa Rica saying that it does not differ in colour from Jamaican specimens, and hence differs from Werner's type of what he called *S. a. continentalis* (Verh. Zool. bot. ges. Wien, 1896, **46**, p. 345; Honduras, Type in Petrograd Mus. Sold by Schlüter, dealer of Halle).

Sphaerodactylus argus may have been introduced to the mainland but no American collector has found it and I am inclined to believe that both Meerworth and Werner had specimens of *glaucus* before them.

19. Sphaerodactylus corticolus Garman.

Plate **5**, fig. 4; Plate **18**, fig. 1–4.

Sphaerodactylus corticolus Garman, Bull. Essex inst., 1888, **20**, p. 111.

Type-locality:— Rum Cay, Bahamas.

Types:— Cotypes. M. C. Z. 6,219. Four specimens. C. J. Maynard.

Distribution:— Apparently rare it has been found on New Providence (M. C. Z.) and Watling's Island (U. S. N. M.) besides the type-locality.

Diagnosis:— Slender, medium size, the dorsal scales very small, keeled and imbricating, about ten or eleven equalling distance from tip of snout to centre of eye; scales of top of snout and vertex of nearly equal size, about eighteen in a series between the eye.

Description:— The largest of the Cotypes.

Snout rather short, declivous and rounded; eye nearer tip of snout than ear;

rostral wide with median groove; nostril between rostral, first supralabial, a large supranasal and two small scales; a single large scale between the two supranasals; suture between third and fourth supralabial beneath centre of eye; superciliary spine present; head above and on sides covered with small, juxtaposed, granular scales very little if any enlarged on the snout; nuchals similar; dorsals slightly enlarged, keeled, slightly imbricate, about eleven or twelve equal to the distance of tip of snout from centre of eye; mental medium, followed by a few enlarged postmentals; the third, a very small, infralabial beneath centre of eye; gular scales small, granular, juxtaposed and smooth; chest and belly covered with larger, imbricating smooth scales; limbs covered with very small, keeled scales; tail covered with very small scales not in whorls, large plates below.

Colour:— Males uniform brown, flecked very indistinctly with darker; belly slightly paler; a female (M. C. Z. 13,452) brown with lines of light dots, distinct on head and neck but fading on body.

Dimensions:—	Tip of snout to vent	30 mm.
	Vent to tip of tail	7 mm.
	Greatest width of head	5 mm.
	Tip of snout to ear	7.5 mm.
	Fore leg	7 mm.
	Hind leg	9 mm.

Remarks:— I have never had the good fortune to find this gekko in the Bahamas nor did Dr. Rosén record it. Mr. Maynard has taken five of the six specimens so far known but I know nothing of its habits or occurrence in nature. It is related to *nigropunctatus* of Cuba.

20. Sphaerodactylus gilvitorques Cope.

Plate 6, fig. 1; Plate 18, fig. 5–8.

Sphaerodactylus gilvitorques Cope, Proc. Acad. nat. sci. Phil., 1861, p. 500.

Type-locality:— Jamaica.

Type:— Academy Natural Sciences Phil. 7,555. E. W. Pennock.

Distribution:— Jamaica. The species has not been found by any recent explorer so far as I am aware. It has certainly not appeared in any of the considerable number of Jamaican collections which have come to the M. C. Z.

Diagnosis:— Small, stocky, with very large keeled imbricating dorsals of which only about four equal the distance of tip of snout to centre of eye, no mid-

dorsal zone of smaller scales; snout very short; head broad and swollen; three large supralabials.

Description:— Type. Snout short, rounded, steeply declivous; eye distinctly nearer tip of snout than ear; rostral small with a median groove; nostril between rostral, first supralabial, a very large supranasal and one small scale; one small scale followed posteriorly by two separate the two supranasals; the third large supralabial extending well back of the centre of the eye; superciliary spine present but very small; head above and on sides covered with rather large granular scales only very slightly enlarged on the snout; scales of back very large, imbricate, keeled, only about four equalling the distance of tip of snout from centre of eye; mental medium, larger than rostral; a distinct postmental followed by a number of enlarged scales; gulars rather large in comparison with other members of the genus; ventrals rounded, imbricate, smooth, scales of limbs small pointed, keeled; tail missing.

Colour: — Dark brown, with a light collar anterior to the interscapular region; head with faint darker longitudinal markings; slightly lighter brown beneath.

Remarks:— Apparently this peculiar and very distinct species is only known from the type-specimen. It is strange that the recent extensive collecting in Jamaica has not rediscovered it. Recently, Dr. Witmer Stone writes me that "during the forties" several collections of reptiles from Jamaica were presented to the Philadelphia Academy by Dr. C. W. Pennock. Whether he collected them himself or secured them from someone else is not disclosed by the records. One of these early collections contained the type of this species.

21. Sphaerodactylus richardsonii Gray.

Plate 5, fig. 3; Plate 19, fig. 1–4.

Sphaerodactylus richardsonii Gray, Cat. lizards Brit. mus., 1845, p. 168.
Sphaerodactylus richardsonii Boulenger, Cat. lizards Brit. mus., 1885, **1**, p. 227, pl. 18, fig. 6.

Type-locality:—"America."

Type:— A single specimen in the British Museum.

Distribution:— This, the largest and most striking member of the genus is confined to Jamaica. It has been found in many scattered localities all in the lowlands or on the lower hills. It is very rare.

Diagnosis:— Very large, cross-barred; of the large keeled imbricate dorsals only about five equal the distance of tip of snout to centre of eye and there is no granular middorsal row.

Description:— M. C. Z. 7,337. Jamaica: Constant Springs near Kingston, 1909. Thomas Barbour.

Snout rather short and broad, its length not quite twice the diameter of the eye; eye slightly nearer tip of snout than ear; rostral large with median groove; nostril between rostral, two large supranasals and several tiny scales which occlude it from the first supralabial; a group of small scales separate the supranasals of the two sides; superciliary spine large and prominent; four large supralabials, the fifth very small, under eye; head above with granular non-imbricating scales, not enlarged on the snout; scales of back large, rough, tectiform, imbricating, about five or six equalling distance from tip of snout to centre of eye; no middorsal granular zone; mental large, followed by two enlarged postmentals; chin-shields and gulars small, juxtaposed; scales of belly imbricate, smooth, roundish, smaller than dorsals; scales of limb enlarged, keeled and imbricate; scale of tail elongate, strongly overlapping forming definite whorls.

Dimensions:—		
	Tip of snout to vent	40 mm.
	Vent to tip of tail	35 mm.
	Greatest width of head	8 mm.
	Tip of snout to ear	10 mm.
	Fore leg	12 mm.
	Hind leg	14 mm.

Remarks:— One of the peculiarities of this species is that it has the same tender paper-like skin which is seen in Aristelliger and Thecadactylus. Individuals are rare and the three I found were under rocks in a rather xerophytic environment. Dr. Clark found his at Montego Bay, under stones also. This is the largest and most striking member of the genus. It is not only long but stockily-built and can be distinguished at once by the very large tectiform dorsals and the absence of a dorsal granular zone which the other large and big-scaled species all have.

22. Sphaerodactylus macrolepis Günther.[1]

Plate **6**, fig. 2, 3; Plate **19**, fig. 5–8.

Sphaerodactylus macrolepis Günther, Ann. mag. nat. hist., 1859, ser. 2, **4**, p. 215, pl. 1, fig. 4.
Sphaerodactylus macrolepis monensis Meerwarth, Mitth. Naturh. mus. Hamburg, 1900, **18**, p. 2.[2]
Sphaerodactylus grandisquamis Stejneger, Ann. rept. U. S. N. M., 1904, 1902, p. 602, fig. 46–50.[3]

[1] For independent conclusions as to the synonyms of this species *cf.* Schmidt, Ann. N. Y. acad. sci., 1920, **28**, p. 184. This paper was received some time after my revision had been presented for publication.
[2] Types:— Mus. Hamburg, 1207a, b Mona. 1891. Bock.
[3] Type:— U. S. N. M. 27,007. Loquillo, Porto Rico. L. Stejneger.

Type-locality:— St. Croix.

Types:— Two specimens in the British Museum. Alfred and Edward Newton.

Distribution:— St. Croix, St. Thomas, Tortola, Virgin Gorda, Anegada, Porto Rico, and Vieques. and Mona.

Diagnosis:— Medium size with large, elongate, keeled, imbricate dorsals about five or six equalling distance of tip of snout to centre of eye; no middorsal granular zone; two very large supranasals often in contact or separated by one scale; head-scales all very small and strongly keeled.

Description:— M. C. Z. 7,300 (U. S. N. M. 27,029). Paratype of *S. grandisquamis*.

Snout rather acute, elongate, and gently declivous in profile, the distance from its tip to the eye being slightly longer than from eye to ear-opening; rostral moderate with a long median cleft behind; nostril between rostral, first labial, two small nasals and an enlarged supranasal which is separated from its fellow on the opposite side by a single small scale; three large supralabials (often four to below the centre of the eye; a prominent spine-like scale on the superciliary margin over the centre of the eye; head above and on sides covered with small elongate, strongly keeled scales, slightly enlarged on the snout; scales on back large, imbricate, keeled, five or six in the distance from tip of snout to centre of eye; mental large, about equal to rostral; two large infralabials followed by a small one which is under the centre of the eye; two small square chin-shields behind mental followed by many small, flat scales, decreasing in size to become almost granular on midgular region then increasing in size on neck and chest-region; scales of chest keeled and imbricate; scales on abdomen large, but smaller than dorsals; limbs covered with small, keeled, imbricate scales; scales on tail keeled and imbricate above, below smooth, some greatly enlarged to form transverse plates.

Colour:— Grayish or brownish of various shades as ground colour, variously dotted and faintly streaked with darker, across the shoulders a wide black band edged before and behind with white and inclosing two white spots. The black band may be reduced but the white spots are very characteristic. There may also be long dark longitudinal streaks on head and body.

Dimensions:— M. C. Z. 12,242, Porto Rico: Manati. G. M. Allen and J. L. Peters.

Total length	56 mm.
Tip of snout to vent	28 mm.

Vent to tip of tail	28 mm.
Width of head	5 mm.
Fore leg	6 mm.
Hind leg	8.5 mm.

Remarks:— Found throughout Porto Rico in the lowland areas not ascending the hills, according to Stejneger; who caught it, however, in many situations from among beach pebbles to native houses. It is locally called Sta. Lucia. In the Virgin Island Mr. Noble, Mr. Peters, and Dr. Ruthven found it very common in dry lowland stations, under stones. I cannot, with this large material before me, find any stable character separating *macrolepis* from *grandisquamis*. Certainly in specimens of equal size the dorsal scales differ but very little in size. In the topotype of *macrolepis*, figured, they are actually larger than in the specimen of *grandisquamis*, drawn by the same artist using the same method of measurement. While I confess to my surprise at being forced to this conclusion I think an examination of the figures of the specimens from the two islands will be convincing. I may also add the conditions between the supranasals of the two specimens drawn, at first sight, so different, might have been reversed, with equal frequency.

23. Sphaerodactylus exsul Barbour.

Plate 7, fig. 1; Plate 20, fig. 1–4.

Sphaerodactylus exsul Barbour, Mem. M. C. Z., 1914, 44. p. 264.

Type-locality:— Little Swan Island, Caribbean Sea.

Types: — Type. M. C. Z. 7,894. Paratypes, M. C. Z. 9,959–9,977. George Nelson.

Distribution:— Little Swan Island.

Diagnosis: — Small with rather large, weakly keeled, imbricate dorsals about five or six equalling the distance of tip of snout from the centre of the eye; no middorsal granular zone; only three large supralabials to below centre of eye.

Description:— Type. Snout rather long and moderately pointed; snout a little more than twice as long as diameter of eye; eye nearer ear than tip of snout; rostral medium sized with median groove; nostril between rostral, first supralabial, a large supranasal and one or two small scales; supranasals of each side separated by a single large scale bordering the centre of the rostral behind; three large supralabials, the third reaches to well posterior of the centre of the eye; third supralabial very long and narrow; superciliary spine present; head

above with rather elongate keeled granules those of anterior part of snout much enlarged; scales of back, rather large, elongate, rather pointed and weakly keeled, imbricate only about six equalling distance of tip of snout to centre of eye; mental large followed posteriorly by a number of enlarged scales of about equal size; suture of second and third infralabials below centre of the eye; ventral scales broader than long, very slightly imbricating and perfectly smooth; scales of limbs elongate, pointed, little enlarged and weakly keeled.

Colour: — Gray uniform and with tiny flecks of darker; the head and neck with narrow lines of darker. These lines may be broken up into series of dots which in some cases appear irregular. Belly pale unspotted; throat with many fine dots. A pair of small white dots on the nuchal region generally present.

Dimensions:—	Tip of snout to vent	23 mm.
	Vent to tip of tail	18 mm.
	Greatest width of head	4 mm.
	Tip of snout to ear	5.5 mm.
	Fore leg	6 mm.
	Hind leg	8 mm.

Remarks:— Mr. Nelson captured all the type-series on Little Swan Island. The two Swan Islands are very near each other, only a narrow channel about four hundred yards wide separating them. Little Swan Island is perhaps three fourths of a mile long and a half mile wide. It is made up entirely of eroded aeolian limestone, the depressions in the weathered rock often bounded by knife-blade septa are filled with the decaying leaves of the dense scrub which covers the whole island. In this vegetable detritus the little sphaerodactyls were found abundantly. Big Swan Island is larger, perhaps two miles long by a mile wide, and is now permanently inhabited by the wireless operators of the United Fruit Company and some Cayman Islanders who work in the extensive cocoanut groves. There is still some heavy virgin scrub on Big Swan of the same character as that found on the lesser island.

24. Sphaerodactylus notatus Baird.

Plate 3, fig. 3; Plate 20, fig. 5–8.

Sphaerodactylus notatus Baird, Proc. Acad. nat. sci. Phil., 1858, p. 254.

Type-locality:— Key West, Fla.

Types:— U. S. N. M. 3,215. W. H. B. Thomas; two specimens catalogued by S. F. Baird are apparently lost.

Distribution:— Abundant in all parts of Cuba, the Island of Pines, and nearly every Bahama Island which has been explored. Probably more widespread in the southern part of Florida than has been suspected. The M. C. Z. has specimens from Key Largo, Big Pine Key, Upper Matacumbe Key while recent exploration shows it to be really common at the Royal Palm Hammock (Paradise Key). Botanically this is a West Indian Island in the Southern Everglades.

Diagnosis:— Small, having proportionally rather large strongly keeled dorsals of which about seven equal distance of tip of snout to centre of eye; no middorsal granular zone; several large scales immediately behind the supranasals; longitudinal markings.

Description:— Adult M. C. Z. 8,513. Cuba: Guantanamo, Monte Libano, March, 1913. Thomas Barbour.

Snout moderately long but not very acutely pointed; the distance from the tip of the snout to the eye being slightly greater than the distance from the latter to the ear; rostral moderate with a long median cleft behind; nostril between rostral, first supralabial, a postnasal, or two, and a slightly enlarged supranasal which is separated from its fellow on the opposite side by one, or often two, small median scales, these three, or four, scales border the rostral above; three large supralabials to below the centre of the eye; head above and on sides covered with fine granules, enlarged and flattened upon the snout; scales on back enlarged, strongly keeled, imbricate, about seven equal to the distance from the tip of snout to the centre of eye; mental moderate, about the size of the rostral; two small roughly pentagonal scales border the mental posteriorly; two (or three) large infralabials to below the centre of the eye; gular scales minute except for a few near the postmentals which are slightly enlarged; scales of chest and belly smooth, rounded, enlarged, but not quite as large as dorsals, and imbricate; tail with somewhat irregularly arranged, rounded, imbricate, smooth scales, no conspicuous series of transversely enlarged scales below.

Colour (in life):— Very variable, often uniform brown lighter below and on tail; perhaps more often with darker longitudinal stripes; sometimes a pair of white dots, which may or may not be in a spectacle-like marking, is found upon the shoulder-region; the head usually has a dark median band and dark bands upon the sides running through the eyes and along the canthi.

Dimensions:—		
	Total length	49 mm.
	Tip of snout to vent	25 mm.
	Vent to tip of tail	24 mm.

Greatest width of head	4 mm.
Fore limb	6.5 mm.
Hind limb	8 mm.

Remarks:— A small and very widely varying species. It is found both within and without human abodes, about equally common in both situations. Represented in M. C. Z. by large series from all parts of its range.

25. Sphaerodactylus anthracinus Cope.

Plate 7, fig. 3; Plate 21, fig. 1–4.

Sphaerodactylus anthracinus Cope, Proc. Acad. nat. sci. Phil., 1861, p. 500.
Sphaerodactylus asper Garman, Bull. Essex inst., 1888, **20**, p. 113.[1]

Type-locality:— The original description stated that the type came from Mexico. This has been copied by Boulenger and others. It seemed at once highly improbable that a sphaerodactyl of this style should occur upon the mainland. The type-specimen was, therefore, carefully examined and found to be absolutely identical with examples from Andros Island in the Bahamas. It has not been rediscovered in Mexico and the locality is certainly erroneous.

Type:— Academy Natural Sciences Philadelphia. 7,558.

Distribution:— Only definitely known from Middle Bight, Andros Island, Bahamas.

Diagnosis:— Very large, having large, imbricate keeled dorsals beginning far forward on the neck, even enlarged on the postaural regions; about six of largest equal to distance from tip of snout to middle of eye. A middorsal zone of fine granules, five supralabials to below centre of eye, median head-scales not enlarged, much smaller than scales of snout. Head very narrow and flat.

Description:— M. C. Z. 6,222.

The larger Cotype of *asper* Garman. Snout long and narrow and depressed; eye distinctly nearer ear than tip of snout; rostral large with a median groove; nostril between rostral, first supralabial, a large squarish supranasal and two small scales; the supranasals of each side separated by two small scales, or often one large one; fifth supralabial, a small one, below centre of the eye; superciliary spine well developed; head above and on sides covered with tiny granular scales, distinctly enlarged on the snout; scales of neck much enlarged passing directly into the very large, heavily keeled, tectiform dorsals of which six of the largest

[1] Types: — M. C. Z. 6,222 Bahamas: Andros Island. C. J. Maynard. 2 Cotypes.

equal the distance from tip of snout to centre of eye; a well-defined middorsal granular zone; mental medium sized followed by two elongate postmentals; fourth infralabial a very small one beneath centre of eye; scales of throat tiny flat granules, of chest and belly small rounded, perfectly smooth and imbricating scales of tail much elongate smooth or weakly keeled imbricating and arranged in whorls; enlarged plates below.

Colour:— Uniform iron-gray, above and below. Both cotypes of *asper* are males; as is the type of *anthracinus*. The female will probably be found to be boldly cross-barred.

Dimensions:—	Tip of snout to vent	41 mm.
	Vent to tip of tail	38+mm.
	Greatest width of head	6.5 mm.
	Tip of snout to ear	9.5 mm.
	Fore leg	10 mm.
	Hind leg	14 mm.

Remarks:— Of the habits or distribution of this striking species nothing is known.

26. Sphaerodactylus copei Steindachner.

Plate 7, fig. 2; Plate 21, fig. 5–8.

Sphaerodactylus copei Steindachner, Reise Novara. Vertebrates, 1869, **1**, p. 18, pl. 1, fig. 5.
Sphaerodactylus picturatus Garman, Bull. Essex inst., 1887, **19**, p. 19.[1]

Type-locality:— Unknown (The Novara did not stop between Madeira and Brazil).

Type:— Steindachner's collection without data. ? K. K. Naturhist. Hofmus.

Distribution:— Günther, (Ann. mag. nat. hist., 1888, ser. 6, **2**, p. 363) identifies specimens from Dominica with this species. One of these is now in the M. C. Z. and in reality is a very widely different creature. A close examination of Steindachner's description and figure leave little doubt but that he had the species which Garman named *picturatus* and which is found very widely distributed in Haiti, although apparently nowhere very abundantly.

Diagnosis:— Large, conspicuous, with the large dorsal scales extending up on the sides of the neck, not almost to the head as in *anthracinus*, nor only to the shoulders as in *scaber;* of the enlarged dorsals about six equal the distance of tip of snout to centre of eye; a conspicuous middorsal granular zone.

[1] Types:—M. C. Z. 3,341, 3,342 Haiti: near Grand Anse River, 1865. D. F. Weinland. 4 Cotypes.

Description:— M. C. Z. 3,342, the largest of the three female cotypes of Garman's *picturatus*. Snout rather long, head distinctly narrow; the eye a very little nearer the tip of snout than the ear; rostral large with a median groove; nostril between rostral, first supralabial, a large supranasal and one or two small scales; a small scale separates the supranasal of each side; the fifth supralabial, a very small one, below the centre of the eye; superciliary spine present but very small and feeble; head above and on sides covered with small granules which are not flat nor yet distinctly keeled, rather sharply swollen, slightly enlarged in snout; scales of sides of neck enlarged, passing on the shoulders into the very large tectiform, dorsals about six of which equal the distance of tip of snout from centre of eye; a prominent middorsal granular zone; mental larger than rostral, followed by many slightly enlarged scales; gular scales very small juxtaposed; scales of chest and belly larger, rounded, slightly imbricate, smooth; scales of limb, enlarged, overlapping, smooth or very feebly keeled; tail with scales small and irregular; enlarged inferiorly.

Colour:— Male uniform metallic iron-gray, with no markings. Females conspicuously streaked on head with light longitudinal markings and decorated on the body with irregular dark cross-bars which include transverse series of white spots. The ground-colour is reddish often flecked with small spots of darker and lighter.

Dimensions:— Adult male M. C. Z. 3,341.

Tip of snout to vent	34 mm.
Vent to tip of tail	39 mm.
Greatest width of head	6.2 mm.
Tip of snout to ear	9.5 mm.
Fore leg	10 mm.
Hind leg	13 mm.

Remarks:— Like its close allies, *copei*, is rare in collections. Dr. Weinland took the four cotypes, a male and three females at Grand Anse River. In 1913 Dr. W. M. Mann brought a small series back from Diquini, taken while collecting ants.

27. Sphaerodactylus scaber Barbour and Ramsden.

Plate 3, fig. 4; Plate 22, fig. 1–4.

Sphaerodactylus scaber, Barbour & Ramsden, Mem. M. C. Z., 1919, **47**, p. 126.
Sphaerodactylus fantasticus Gundlach (*non* Duméril & Bibron), Erp. Cubana, 1880, p. 61.
Sphaerodactylus picturatus Barbour (*non* Garman), Mem. M. C. Z. 1914, **44**, p. 268.

Type-locality:—Sierra de San Juan de los Perros, Province of Camagüey, Cuba.

Type:— M. C. Z. 12,304 and four PARATYPES M. C. Z. 13,438–13,441.

Distribution:— Hill regions of Central Cuba.

Diagnosis:— Large, sexually dichromatic, with large tectiform dorsals, about six in distance from tip of snout to centre of eye, and having a middorsal granular zone; the greatly enlarged dorsals beginning on the scapular region, not forward on the neck as in *anthracinus*. Neck and shoulder-region covered with small granules.

Description:— Adult M. C. Z. 12,304. Cuba: Camaguey; Sierra de San Juan de los Perros. Thomas Barbour.

Snout pointed and elongate, the distance from the tip to the eye being distinctly longer than that from the eye to the ear-opening; rostral moderate with a long median cleft behind; nostril between rostral, first supralabial, a large supranasal and two small postnasals; supranasal separated from its fellow on the opposite side by a single roughly hexagonal scale about two thirds the size of one of the supranasals, the three bordering the rostral above; four large and two small supralabials to below the centre of the eye; a spine on the superciliary margin over the centre of the eye; head above and on sides with extremely minute granular scales; scales of the snout distinctly enlarged and pavement-like dorsals at first very small and granular on the nuchal and scapular regions then passing into the very large, heavily keeled scales of the back of which about six equal the distance from the tip of snout to centre of eye; the change from the cephalic granules to the large dorsal scales is very gradual; it is very abrupt in *anthracinus* and somewhat less so in *copei*; a very narrow median zone of very small scales, most conspicuous on the nape and shoulder-region; mental large, larger than rostral; two very large infralabials and two very small ones to below the centre of the eye; two small, slightly elongate chin-shields behind the mental, followed by small flat chest and throat rounded, imbricate, smooth, rather large, not however, as large as the dorsals; scales of limbs much smaller, imbricate, smooth or feebly keeled; scales of tail small, rounded, slightly elongate, imbricate, smooth, a rather inconspicuously enlarged series on the lower median surface of the tail.

Colour (in fresh specimen):— Uniform iron-gray above, pale below, in the male; and in the female the ground-colour is bluish or stone-gray crossed on the nape, shoulders, and body by pairs of black bands; between these pairs of bands there are also cross-series of dark dots. In the young the pairs of bands are broad and conspicuous but the intermediate series of dots are absent.

Dimensions:—	Total length	58 mm.
	Tip of snout to vent	32 mm.
	Vent to tip of tail	26 mm.
	Greatest width of head	5 mm.
	Tip of snout to ear	7.5 mm.
	Fore limb	8 mm.
	Hind limb	11 mm.

Remarks:— This fine species is known from a single specimen in the Gundlach collection in Havana, from one taken by Mr. Barnum Brown at the Sierra de Jatibonico and the series of six which I took under stones in dense woods in the Sierra de San Juan de los Perros. Gundlach remarks upon three specimens taken at La Fermina near Bemba (now Jovellanos); two of these may have been sent to Peters and may still be in Berlin.

28. Sphaerodactylus fantasticus Duméril & Bibron.

Plate **8**, fig. 1; Plate **22**, fig. 5–8.

Sphaerodactylus fantasticus Duméril & Bibron, Erp. gén., 1836, **3**, p. 406, pl. 32.
Sphaerodactylus fantasticus Boulenger (*non* Dum. & Bibr.), Cat. lizards Brit. Mus., 1885, **1**, p. 223 (Caracas and Antigua).
Sphaerodactylus fantasticus Andersson (*non* Dum. & Bibr.), Bih. K. Svensk. vet. akad. Handl., 1900, **26**, no. 4, p. 28.
Sphaerodactylus fantasticus Barbour, Proc. Biol. soc. Wash., 1915, **28**, p. 72.

Type-locality:— Martinique? They almost certainly came from Guadeloupe. (*Cf.* Barbour, *loc. cit.*)

Type:— Collected by M. Plée, a contributor to the Paris Museum, whose material has been the source of endless confusion. Plée evidently shipped his material from Martinique with apparently no warning that it had been collected from a host of different localities.

Distribution:— Confined to Guadeloupe Island.

Diagnosis:— Rather large, with large keeled imbricate dorsals about seven or eight equalling distance from tip of snout to centre of eye; a middorsal zone of much smaller scales, scales of top of snout and vertex very homogeneous in size; four scales about equal in size bordering rostral posteriorly; ventrals weakly keeled.

Description:— M. C. Z. 10,633, one of a series of about one hundred collected by G. K. Noble in Guadeloupe, in 1914.

Snout neither conspicuously long nor pointed; the eye about midway between tip of snout and ear; rostral large, with median cleft; nostril between rostral, first supralabial, a small supranasal and two other small scales; supra-

nasal separated from its fellow of the opposite side by two scales about equal to the supranasals in size, these four border the rostral posteriorly; three large supralabials to below centre of eye; scales of head small almost round, slightly keeled, nonimbricate, on snout larger, polygonal, also weakly keeled; scales of neck very small and granular passing abruptly on the shoulders to the dorsals which are large, heavily keeled, imbricate about eight equalling the distance of tip of snout from centre of eye; a narrow sharply defined middorsal zone of fine granular scales; mental large, one large and two smaller infralabials to below centre of eye; chin-shields small, pavement-like and homogeneous in size; scales of neck and chest with faint weak keels; ventrals round, imbricating, much smaller than dorsals also weakly keeled; scales of limbs, small, imbricate, keeled; tail-scales in irregular whorls of small scales; large transverse plates below.

Colour:— Brown, body with faint wavy lines, tail marbled. The throat is almost invariably speckled or lined with bold black spots or streaks; the head striped or marbled above and on the sides with dark lines. The markings while very narrow are often bold and conspicuous.

Dimensions:—	Tip of snout to vent	25 mm.
	Vent to tip of tail	32 mm.
	Greatest width of head	5 mm.
	Tip of snout to ear	7 mm.
	Fore limb	7 mm.
	Hind limb	11 mm.

Remarks:— It is very significant and noteworthy that while Mr. Noble took nearly an hundred sphaerodactyls in Guadeloupe at many localities they were every one of the same species. Strong evidence this, against the proposition that many species occur scattered haphazard throughout the archipelago. Mr. Noble also found the rather large, single, oblong eggs, which measure 6.5 × 4.75 mm., in rotten wood.

29. Sphaerodactylus pictus Garman.

Plate 8, fig. 2; Plate 23, fig. 1–4.

Sphaerodactylus pictus Garman, Bull. Essex inst., 1887, 19, p. 20.

Type-locality:— St. Christopher.

Types:— M. C. Z. 6,071, two specimens. Samuel Garman during the Expedition of the U. S. C. S. steamer Blake.

Distribution:— St. Christopher.

Diagnosis:— Large having rather large but very bluntly keeled dorsals, a middorsal granular zone, about nine dorsals equal to distance of tip of snout from centre of eye; spotted.

Description:— Taken from the largest COTYPE. Snout rounded; eye about midway between ear and tip of snout; rostral very wide but shallow with the usual median groove; nostril between rostral, first supralabial, a medium sized supranasal and two small scales; two fairly large scales border the rostral between the two supranasals; third supralabial, a very long one, reaches to below the centre of the eye; superciliary spine well developed; head above and on sides covered with small slightly elongate scales, somewhat enlarged and flattened on the snout; scales of back large, bluntly keeled, showing a slight tendency to imbricate about nine scales in the distance equal to that between tip of snout and middle of eye; a middorsal zone of small granular scales which is very narrow and best developed posteriorly; mental large, deeper than rostral; one very large and several smaller infralabials; no well distinguished chin-shields; scales of chest and belly smooth; tail long slender with enlarged plates below.

Colour:— Light tan-brown with spots and spots joined into streaks of darker brown; throat nearly white, belly pale gray-brown.

Dimensions:—	Tip of snout to vent	31 mm.
	Vent to tip of tail	? mm.
	Greatest width of head	6 mm.
	Tip of snout to ear	8.75 mm.
	Fore leg	9 mm.
	Hind leg	11.5 mm.

Remarks:— Garman collected the types and it was beyond doubt the opportunity to observe Antillean reptiles in life which the BLAKE Expeditions gave him that resulted in his learning that the fauna of each island is generally distinct through isolation. Earlier writers down to Günther and even Boulenger in his earlier years had believed that species had a wide and more or less haphazard range throughout the Island chain. Garman first showed that most species were confined to single islands or groups of islands closely related geologically.

30. SPHAERODACTYLUS BECKI Schmidt.

Plate **23**, fig. 5–8.

Sphaerodactylus becki Schmidt, Bull. Amer. mus. nat. hist., 1919, **41**, p. 520.

Type-locality:— Navassa.

Type:— American Museum Natural History 12,595. R. H. Beck during the Brewster-Sanford Expedition, 1917.

Distribution:— The type-locality.

Diagnosis:—"Scales large, imbricate; dorsal scales keeled, a vertebral row of small granular scales; ventral scales smooth; dorsal and ventral scales subequal, caudal scales larger; five upper and four lower labials; uniform grayish brown above, light gray below" Schmidt, *loc. cit.* "Ten dorsal scales equalling distance from tip of snout to middle of eye." G. K. Noble, *in litt.*

Description of the type:—"Head pointed, snout as long as the distance between eye and ear opening; ear opening oval, small, oblique; rostral large, with a median cleft above; five upper labials; four lower labials; scales of head small, granular, larger on the snout, gradually passing into the imbricate dorsals; mental large, followed by a pair of small postmentals; dorsal scales as large as the ventrals, imbricate and keeled; one or two vertebral series of small granular scales; ventrals perfectly smooth; caudals transversely enlarged below on the proximal half of the tail; caudal scales about twice as large as the dorsals, smooth; ventral scales perfectly smooth.

Uniform grayish brown above, lighter gray below; dorsal scales are narrowly but sharply dark-edged producing a finely reticulated appearance; throat faintly marbled with darker gray; labials and sides of the head faintly spotted with white; a narrow white line on the canthus rostralis continued from the posterior border of the eye, converging with its fellow on the parietal region, uniting on the neck.

Length 42 mm.; body, 22 mm.; head 6 mm. long, 3.5 mm. broad; arm, 6 mm.; leg, 8 mm." Schmidt, *loc. cit.*

Since writing the foregoing, I have had the opportunity, thanks to Miss M. C. Dickerson and Mr. K. Schmidt, to examine the type of *becki*. It is a half-grown male with the skin badly torn. The large dorsals are not so strongly keeled as in *scaber*, *copei*, or *anthracinus*. The head is very narrow, long and depressed, as much so or perhaps even more than in *oxyrrhinus*. The internasals are separated by a single large scale which is let into a shallow reëntrant in the posterior face of the rostral. The large, rather feebly keeled dorsals arise gradually on the scapular region; the condition is most like that seen in *scaber* with which species *becki* seems most closely connected. The scales of chest and belly are all perfectly smooth.

31. Sphaerodactylus sputator (Sparrman).

Plate 8, fig. 3, 4; Plate 24, fig. 1–8.

Lacerta sputator Sparrman, K. Svensk. vet.-akad. Handl., 1784, **5**, p. 161, pl. 4, fig. 1.
Sphaerodactylus sputator Barbour, (*nec auct.*), Mem. M. C. Z., 1914, **44**, p. 270.

Type-locality:— St. Eustatius.

Types:— Three specimens in the Stockholm Museum. Dr. Acrelius.[1]

Distribution:— Unknown but probably confined to the Island of Statia or St. Eustatius.

Diagnosis:— Medium sized, cross-banded, with large dorsal scales, keeled and imbricating; about ten equalling the distance between tip of snout and centre of eye; loreals many and excessively small; many large postmentals.

Description:— I have not seen a specimen of this species. Happily Dr. Lars G. Andersson has been kind enough to cause Mr. Bror Hallberg of Stockholm to draw for me two of the cotypes and from these drawings the diagnosis is derived. Dr. Andersson also writes me (*in litt.*, 16, 11, 1919):—"Sparrman's specimens are coloured as follows. *Two specimens* (36 + 42.5 and 30.5 × 37 mm. in length):— Head above indistinctly dotted with brown; between ear and vent of pairs of brown bands, the first immediately behind the ear, 2d in front of, 3rd behind, the axilla, 4th, 5th and 6th on the body, 7th at the vent. The basal part of the tail is provided with 6–8 bands, more or less distinctly arranged in pairs; the distal part shows no bands only small dots, in one specimen it is regenerated.

The smallest specimen (28.3 × 18 mm.) has no bands. The head and the upper surface of the neck is very distinctly and densely spotted with brown; the anterior part of the body indistinctly dotted.

All the specimens have a median dorsal line of small granules and the scales are imbricating and large. As I say in my note regarding them they correspond in every respect, except in colour with Blgr's diagnosis of *Sph. fantasticus*."

As will be observed by comparing the figures, the form which I believe to be true *fantasticus* has larger dorsal scales, larger scales on the snout, large or better, more enlarged postmentals and very different, larger, loreals. From its near neighbour *elegantulus*, if Mr. Hallberg's drawings are as scrupulously accurate as Mr. Fischer's, it is easily separated by the smaller dorsals and smaller loreals in *sputator* and the very different internasal arrangement.

Remarks:— It is really remarkable that the first sphaerodactyl to be named

[1] *Cf.* L. G. Andersson, Bihang. K. Svensk. vet.-akad. Handl., 1900, 26, p. 27, who, I think, incorrectly identifies these specimens with *fantasticus* of Duméril & Bibron.

came from a locality so seldom visited that topotypes are no where available and have not even been seen by herpetologists in general. This has lead to an unfortunate uncertainty about the name *sputator* before it was known that the species of the genus were not of haphazard distribution. While the accuracy of data on all specimens collected over a hundred years ago is always open to some doubt and while it is possible that these specimens were sent to Sweden from Statia but not really caught there; still I cannot find any specimens elsewhere which agree with the drawings Dr. Andersson so kindly sent me. There is, therefore, no reason, at present, to suppose that *sputator* is anything more than the local representative of the genus upon St. Eustatius and future exploration may show this to be quite correct, although we know nothing of what is to be found on St. Martin's, Saba, Redonda and other small islands near by, all of which are probably inhabited by sphaerodactyls.

32. Sphaerodactylus microlepis Reinhardt & Lütken.

Plate 9, fig. 1; Plate 25, fig. 1–4.

Sphaerodactylus microlepis Reinhardt & Lütken, Viden. meddel. Nat. foren. Copenhagen, 1863, 1862, p. 278.
Sphaerodactylus microlepis Boulenger, Cat. lizards Brit. mus., 1885, 1, p. 224.

Type-locality:— Said to have been St. Croix but the original authors themselves doubted at once the probability of this being correct. They noticed its similarity to *fantasticus* and stated that the record needed confirmation.

Type:— Copenhagen Museum, Knudsen.

Distribution:— Probably confined to the island of St. Lucia.

Diagnosis:— Medium sized having keeled scales on chest and belly; small keeled scales on sides of back about twelve equalling distance of tip of snout from centre of eye; scales of middorsal region reduced in size but not to form a well-defined granular zone.

Description:— M. C. Z. 10,787, St. Lucia.

Snout rather broad, not conspicuously elongate; eye about midway between tip of snout and ear; rostral moderately large with median groove; nostril between rostral, first supralabial, a small supranasal and another small scale; the supranasals of each side separated by three scales, the five all about equal in size; third large supralabial reaching far under eye; superciliary spine present; head above and on sides covered with tiny keeled granules, enlarged on snout; scales of back except middorsal region small, keeled, about twelve equalling the

distance of tip of snout from centre of eye; scales of middorsal region distinctly reduced in size but not forming a distinct granular zone; mental large followed by a few enlarged postmentals; scales of throat small, keeled as are the larger, rhombic, imbricating scales of chest and belly; scales of tail very small, keeled, not much elongate, forming weakly defined whorls.

Colour:— Brown; head, neck, and throat with bold black stripes and bars. Indistinct wide cross-bars on body. (In 10,787, a male) Boulenger (*loc. cit.*, p. 224) quotes Bocourt who is speaking of the synonymous *melanospilos:* "Bocourt adds that the ventral scales are keeled and that there are no enlarged inferior caudal scales. Back with dark spots and large transverse markings." This may represent merely a variant or be the female colouration.

Dimensions:—	Tip of snout to vent	31 mm.
	Vent to tip of tail	25+mm.
	Greatest width of head	5 mm.
	Tip of snout to ear	8.5 mm.
	Fore leg	9 mm.
	Hind leg	12 mm.

Remarks:— The fact that it was not realized that Reinhardt and Lütken themselves correctly questioned the accuracy of St. Croix as the type-locality of *microlepis*, has given rise to the impression that it has a wide distribution throughout the Lesser Antilles. In fact Boulenger says (Proc. Zool. soc. London, 1891, p. 353). "This is evidently the most widely distributed of the West-Indian *Sphaerodactyli*, since it is known from St. Croix (*Lütken*), Dominica and St. Lucia." The St. Croix record rests on an incorrect label, while Boulenger himself points out colour-characters which separate Dominican individuals and had the binocular microscope been in use in 1891 other characters would probably have been revealed. There was apparently no confusion in Boulenger's mind with the other Dominican species which he called *copei* Steindachner. This form, as is pointed out elsewhere, is so unlike Steindachner's excellent figure of *copei* that one wonders how both Günther and Boulenger can have applied this name to the Dominican individuals. *Copei* has been, with fear and trembling, made to replace *picturatus* Garman; it had no type-locality; while the Dominica sphaerodactyls are here called *monilifer*. This is only a provisional arrangement until the type can be critically examined. It may even develop that there is but one species, *monilifer*, in Dominica and that that has been confused with *microlepis* thus accounting for the Dominican records for the latter species.

33. Sphaerodactylus elegantulus Barbour.

Plate 9, fig. 2; Plate 25, fig. 5–8.

Sphaerodactylus elegantulus Barbour, Proc. Biol. soc. Wash., 1917, **30**, p. 163.

Type-locality:— Antigua.

Type:— M. C. Z. 12,084, a very young and therefore misleading specimen. Dr. D. W. Griswold.

Distribution:— Antigua.

Diagnosis:— Medium sized, with rather large keeled, imbricate dorsals of which twelve or thirteen equal the distance from tip of snout to centre of eye; a middorsal zone of scales of decidedly lesser size; only three large supralabials and the anterior pair of these bordered by only five large scales in the basal loreal row.

Description of type:— Snout rather short but acute, the distance from tip of snout to eye being about equal to distance of eye from ear-opening, and more than twice the diameter of the eye, which is rather small; rostral rather large with a median cleft behind; nostril between rostral, first supralabial, one or two small postnasals and a decidedly enlarged supranasal which is separated from its fellow on the opposite side by a single scale, slightly smaller than one of the supranasals; these three scales border the rostral posteriorly; three large supralabials to below the centre of the eye; above the centre of the eye the usual spine-like scale is present; top of head covered with tiny granules increasing in size upon the neck; back covered with larger keeled slightly imbricating scales and with a very narrow ill-defined median dorsal zone of scales of much reduced size, these characters evident in adult; in the young type 13 scales or in the adults 9 scales, counting in a straight line on the middorsal region are equal to the distance from the tip of the snout to the middle of the eye; scales of chest and belly round, smooth, and slightly imbricating, scales of throat granular, of limbs granular in young type, swollen, keeled, but nonimbricating, in adults; scales of tail in whorls, squarish, flat, not imbricating in young type, slightly imbricating in adult, a subcaudal series of enlarged scales, mental large, as large as rostral, followed by a very large, a medium sized and a very small infralabial; two small squarish postmentals slightly enlarged.

Colour:— Rich mahogany-brown, the head lighter than the body; very narrow pure white cross-bands arranged as follows, one on nape, one just anterior to and another just behind fore limbs, two across midbody, one just before

and another behind the hind limbs, four on tail, the two distal rings more or less broken into dots; tip of tail pale. The rings are very sharply defined, equidistant from each other. The belly is gray and the rings do not extend beyond the brown areas of the sides.

Dimensions:— Adult.	Tip of snout to vent	54 mm.
	Vent to tip of tail	28 mm.
	Greatest width of head	5 mm.
	Tip of snout to ear	5 mm.
	Fore leg	6.5 mm.
	Hind leg	9 mm.

Remarks:— I described this species from a single specimen which proves to have been a very young one. Its scales on back and shoulders were so tiny as to appear really granular. Hence, I associated it with *elegans* and *torrei* and concluded that it might easily be adult for *elegans* is excessively small and strikingly similar in colouration. In 1918, however, Mr. W. R. Forrest sent me five additional sphaerodactyls from English Harbour, Antigua. Two tiny young, one half-grown and two large specimens. Of these five specimens the males are absolutely plain uniform brown in colour, the females are speckled, "pepper and salt" colour. The two little examples which are very small agree closely in size, but not in colour, with the type, *i. e.* being about 30 mm. in total length and with it they agree remarkably in scutation. The middorsal granular zone which is really not particularly well defined is only seen under high magnification. The adults, however, completely change the deduction as to affinities and it is clear that this form belongs with *pictus*, *sputator*, and allied species.

34. Sphaerodactylus vincenti Boulenger.

Plate 9, fig. 3; Plate 26, fig. 1–4.

Sphaerodactylus vincenti Boulenger, Proc. Zool. soc. London, 1891, p. 354.

Type-locality:— St. Vincent.

Types:— M. C. Z. 10,788 one specimen. One of the Cotypes from the British Museum.

Distribution:— Confined to the Island of St. Vincent.

Diagnosis:— Medium sized, having keeled scales on chest and perfectly smooth scales on the belly; small keeled scales on sides of back about twelve equalling the distance of tip of snout from centre of eye; scales of middorsal region reduced in size but not to form a well-defined granular zone.

Description:— M. C. Z. 10,788, St. Vincent, H. H. Smith. Cotype received from the British Museum. Snout moderately pointed; eye midway between tip of snout and ear; rostral medium with median groove; nostril between rostral, first supralabial, a small supranasal and one small postnasal; the two supranasals are separated by one median scale; fourth and fifth, both small, infranasals beneath eye; superciliary spine present; head above and on sides covered with tiny keeled granules, very slightly enlarged on snout; scales of back except middorsal region small, keeled about twelve equalling the distance of tip of snout from centre of eye; scales of middorsal region smaller but not forming a distinct granular zone; mental large followed by a few enlarged postmentals; scales of throat small hexagonal or roundish; scales of chest and belly larger, roundish, imbricating, the former keeled, the latter (ventrals) perfectly smooth; scales of tail very small, in circles; an enlarged subcaudal median series.

Colour:—"Brown above, head lighter; a pale, dark-edged V-shaped marking may be present at the base of the tail; lower parts pale brown the scales edged with darker; tail coral-red, all over or only on the lower surface." (Boulenger, *loc. cit.*).

Dimensions:—		
	Tip of snout to vent	20 mm.
	Vent to tip of tail	27 mm.
	Greatest width of head	5 mm.
	Tip of snout to ear	8 mm.
	Fore leg	8 mm.
	Hind leg	10 mm.
		(Boulenger, *loc. cit.*).

Remarks:— This species is very closely allied to *microlepis* the only fundamental difference being the smooth instead of keeled ventrals. Of its habits or distribution on the island we have only a line of information. Boulenger states that the types were found on the ground, under rotting leaves, in damp forest.

35. Sphaerodactylus monilifer, sp. nov.

Plate 9, fig. 4; Plate 26, fig. 5–8.

Sphaerodactylus copii (*sic*) Gunther, Ann. mag. nat. hist., 1888, ser. 6, 2, p. 363 (*nec* Steindachner).

Type-locality:— Dominica.

Type:— M. C. Z. 10,786.

Distribution:— The type-locality.

Diagnosis:— Medium sized, uniform brown with large dorsal and lateral

scales of uneven size and with some scattered granules; the largest scales on sides about seven, the smaller middorsals about ten or eleven equalling the distance from tip of snout to middle of eye; no distinct middorsal zone; anterior loreals much enlarged, posterior loreals very small.

Description:— Snout short, not very acute; the distance from tip of snout to eye being about equal to distance of eye from ear-opening, and more than twice the diameter of the eye; rostral large with median cleft above; nostril between rostral first upper labial and one supralabial and one small postnasal; supranasals separated by a group of five, or four, small scales, two of which border the rostral behind; suture between third large supranasal and the fourth very small one, below centre of eye; over eye the usual spine-like scale; top of head covered with very minute strongly keeled, very homogeneous granules, not enlarged on the snout but on the neck increasing rapidly until the much enlarged and heavily keeled almost tectiform dorsals are reached; laterals much larger than dorsals but no well-defined middorsal differentiated zone; size of scales as given in diagnosis; scales of chest keeled, of belly large, rounded, smooth and imbricate; scales of limbs enlarged, keeled and irregular in size; scales of tail in unreproduced portion in whorls of enlarged scutes with enlarged transverse plates below, in reproduced portion fine granular scales, pointed, not in regular whorls and without large transverse plates below; mental large; bordered posteriorly by two enlarged scales, anterior gulars slightly larger than posterior.

Colour:— Uniform rich brown with a conspicuous ocellus on each side just over the axillar region.

Dimensions:—	Tip of snout to vent	30 mm.
	Vent to tip of tail	? (reproduced)
	Greatest width of head	5.5 mm.
	Tip of snout to ear	7.5 mm.
	Fore leg	7 mm.
	Hind leg	9.5 mm.

Remarks:— This species is allied to *microlepis* and *vincenti* but has a much less differentiated area of dorsal scales and much larger scales throughout. I have only seen one specimen but of this the colouration is uniquely different from any Sphaerodactylus I have ever observed. Günther called the Dominica individuals *copii* (*sic*) but an examination of Steindachner's excellent figure shows that he had one of the species with the very well-marked middorsal zone and apparently the Haitian form *picturatus* of Garman which must now be called

copei. According to Boulenger (Proc. Zool. soc. London, 1891, p. 351) this is not the only species found on Dominica, but *microlepis* occurs there as well as upon St. Lucia.

Alphabetic list of the species in the collection of the M. C. Z.

Sphaerodactylus anthracinus Cope.

6,222	2	Bahamas: Andros Island.	C. J. Maynard	1888	*S. asper* Garman, Types Plate **7**, fig. 3

Sphaerodactylus argivus Garman.

6,223	7	Cayman Brac.	C. J. Maynard	1888	Cotypes
13,597	1	Cayman Brac.	C. J. Maynard	1888	Cotype, Plate **5**, fig. 2, Plate **16**, fig. 5–8

Sphaerodactylus argus Gosse.

8,211	1	Jamaica: Moneague	Henry Bryant		
7,034	1	Jamaica: Kingston	Wirt Robinson	1905	Plate **4**, fig. 4, Plate **17**, fig. 5–8
12,451	1	Jamaica: Kingston	Wirt Robinson	1905	
7,345	60	Jamaica: Kingston	Thomas Barbour	1909	
13,593	1	Jamaica: Kingston	Thomas Barbour	1909	
13,584–13,589	6	Jamaica: Kingston	A. E. Wight	1909	
7,353	6	Jamaica: Mandeville	A. E. Wight	1909	
7,346	15	Jamaica: Mandeville	Thomas Barbour	1909	

Sphaerodactylus cinereus Wagler.

6,271	1	West Indies	James Reed		
4,747	3	Cuba: Caibarien	N. H. Bishop		
4,748	1	Cuba: Caibarien	N. H. Bishop		
6,917	7	Cuba: Santiago	Wirt Robinson	1904	
7,914	10	Cuba: Herradura	Thomas Barbour	1912	
7,915	1	Cuba: Cienfuegos, Soledad	Thomas Barbour	1912	
7,916	5	Cuba: San Diego de los Baños	Thomas Barbour	1912	
7,917	2	Cuba: Havana	Thomas Barbour	1912	
8,545–8,547	3	Cuba: Jiguani, Los Negros	Thomas Barbour	1913	
10,912	1	Cuba: Sierra de Cubitas	Carlos de la Torre	1915	
10,844–10,845	2	Cuba: Cabo San Antonio	Carlos de la Torre	1915	Plate **2**, fig. 4, Plate **12**, fig. 4
10,834	1	Cuba: San Antonio de los Baños	Thomas Barbour & W. S. Brooks	1915	
11,131–11,132	2	Island of Pines: Los Indios	G. A. Link	1915	
11,132					
11,194	1	Island of Pines: Nueva Gerona	Thomas Barbour & W. S. Brooks	1915	Plate **12**, fig. 1–3
3,343	4	Haiti: near Grand Anse River	D. F. Weinland	1865	*S. alopex* Cope, Cotypes

13,456	1	Haiti: Jacmel	D. F. Weinland	1865	
8,753–8,754	2	Haiti: Momance	W. M. Mann	1913	
8,769	1	Haiti: Diquini	W. M. Mann	1913	
9,359–9,361	3	Haiti: Diquini	W. M. Mann	1913	
13,442	1	Haiti: Contard	G. M. Allen	1919	

SPHAERODACTYLUS COPEI Steindachner.

3,341	1	Haiti: near Grand Anse River	D. F. Weinland	1865	*S. picturatus* ~~Cope~~, Cotypes
3,342	3	Haiti: near Grand Anse River	D. F. Weinland	1865	*S. picturatus* ~~Cope~~, Cotypes, Plate **7**, fig. 2, Plate **21**, fig. 5–8
8,771	1	Haiti: Diquini	W. M. Mann	1913	

SPHAERODACTYLUS CORTICOLUS Garman.

6,219	4	Bahamas: Rum Cay	C. J. Maynard	1888	Cotypes, Plate **5**, fig. 4, Plate **18**, fig. 1–4
13,452	1	Bahamas: New Providence, Nassau	C. J. Maynard	1912	

SPHAERODACTYLUS DECORATUS Garman.

6,220	1	Bahamas: Rum Cay	C. J. Maynard	1888	Type
6,221	1	Bahamas: Andros Island	C. J. Maynard	1888	
6,952	25	Bahamas: Andros Island, Mangrove Cay	Owen Bryant	1904	Plate **1**, fig. 1, Plate **10**, fig. 1–4
6,953	19	Bahamas: Andros Island, Mangrove Cay	Owen Bryant	1904	*S. flavicaudus* Barbour, Cotypes
13,564	1	Bahamas: Andros Island, Mangrove Cay	Bahama Exped.	1904	*S. flavicaudus* Barbour, Cotypes

SPHAERODACTYLUS DIFFICILIS Barbour.

7,834	1	San Domingo: La Vega	A. H. Verrill	1910	Type
7,835	1	San Domingo: La Vega	A. H. Verrill	1910	
5,444	2	San Domingo: Puerto Plata	M. A. Frazar	1885	
5,451	1	San Domingo: Samana	M. A. Frazar	1885	
8,750	1	Haiti: Grand Riviere	W. M. Mann	1913	
9,365–9,366	2	Haiti: Grand Riviere	W. M. Mann	1913	
13,458	1	Haiti: Ferronai	G. M. Allen	1919	

SPHAERODACTYLUS ELEGANS MacLeay.

5,745	1	West Indies			
4,409	1	Cuba: Caibarien	N. H. Bishop		
5,417	3	Cuba: Remedios			
7,921	10	Cuba: San Diego de los Baños	Thomas Barbour	1912	
8,891	3	Cuba: Santiago de las Vegas	R. V. Chamberlin	1913	
10,910	1	Cuba: San Antonio de los Baños	Barbour & Brooks	1915	Plate **2**, fig. 3, Plate **11**, fig. 5–8
13,590	1	Island of Pines	W. R. Zappey	1902	
11,124–11,126	3	Island of Pines: Los Indios	G. A. Link	1915	
11,191	1	Island of Pines: Nueva Gerona	Barbour & Brooks	1915	
8,749	4	Haiti: Momance	W. M. Mann	1913	

SPHAERODACTYLUS ELEGANTULUS Barbour.

12,084	1	Antigua	D. W. Griswold	1917	Type, Plate **9**, fig. 2, Plate **25**, fig. 5–8
13,487–13,495	9	Antigua: St. John	W. R. Forrest	1916	
15,538–15,545	9	Antigua: English Harbour	W. R. Forrest	1918	
15,546–15,547	2	Barbuda	W. R. Forrest	1920	

SPHAERODACTYLUS EXSUL Barbour.

7,894	1	Little Swan Island	George Nelson	1912	Type, Plate **7**, fig. 1, Plate **20**, fig. 1–4
9,959–9,977	19	Little Swan Island	George Nelson	1912	

SPHAERODACTYLUS FANTASTICUS Duméril & Bibron.

10,631–10,680	50	Guadeloupe	G. K. Noble	1914	Plate **8**, fig. 1, Plate **22**, fig. 5–8

SPHAERODACTYLUS FESTUS Barbour

10,622	1	Martinique: Fort de France	A. G. Ruthven	1914	Type, Plate **3**, fig. 1, Plate **15**, fig. 1–4.
10,623	1	Martinique: Fort de France	A. G. Ruthven	1914	Paratype

SPHAERODACTYLUS GIBBUS Barbour.

13,436	1	Bahamas: Stocky Island	C. J. Maynard	1915	Type, Plate **1**, fig. 2, Plate **10**, fig. 5–8
13,437	1	Bahamas: Stocky Island	C. J. Maynard	1915	
13,435	1	Bahamas: Exuma, Cay opp. Roseville	C. J. Maynard	1915	
14,665	1	Cuba: Guantanamo	C. T. Ramsden	1921	

SPHAERODACTYLUS GLAUCUS Cope.

13,570	1	Yucatan: Merida	A. Schott		Cotype, Plate **14**, fig. 5–8

SPHAERODACTYLUS GONIORHYNCHUS Cope.

13,457	1				
5,833	1	Jamaica?			
7,343	10	Jamaica: Bath, Beacon Hill	Thomas Barbour	1909	Plate **4**, fig. 3, Plate **15**, fig. 5–8
13,594	1	Jamaica: Kingston	Thomas Barbour	1909	
7,338	2	Jamaica: Port Antonio	A. E. Wight	1909	
7,240	3	Jamaica: Mandeville	Thomas Barbour	1909	
7,354	1	Jamaica: Mandeville	A. E. Wight	1909	
7,352	6	Jamaica: Mandeville	A. E. Wight	1909	

SPHAERODACTYLUS INTERMEDIUS Barbour & Ramsden.

12,305	1	Cuba: Matanzas, Sierra de Hato Nuevo	Thomas Barbour	1918	Type, Plate **1**, fig. 5, Plate **12**, fig. 5–8
13,726	1	Cuba: Matanzas, Sierra de Hato Nuevo	Thomas Barbour	1918	

SPHAERODACTYLUS LINEOLATUS Lichtenstein.

13,453	1	Guatemala: Cacao	G. P. Gott		
11,727	1	Costa Rica: Zent	H. S. Blair	1916	Plate **4**, fig. 1
7,285	12	Gulf of Panama: San Miquel Island	W. W. Brown	1904	
10,934–10,944	11	Gulf of Panama: Sabago Island	W. W. Brown	1904	Plate **4**, fig. 2, Plate **14**, fig. 1–4
13,455	1	Panama: Punta de Piña	R. E. McKenney	1904	
7,279	2	Gulf of Panama: Taboga Island	Thomas Barbour	1909	
13,459	1	Mass.: Salem in fruit	G. Tassinari	1919	

SPHAERODACTYLUS MACROLEPIS Günther.

13,480	1	Mona Island	F. E. Lutz	1914	
6,072	1	Porto Rico: Bayamon	Samuel Garman		
7,300	4	Porto Rico: Loquillo	Leonhard Stejneger		*S. grandisquamis* Stejneger, Paratypes
12,242	1	Porto Rico: Manati	G. M. Allen & J. L. Peters	1917	Plate **6**, fig. 3
5,436	4	St. Thomas	Samuel Garman	1878	
10,720–10,724	5	St. Thomas	G. K. Noble	1914	
12,264–12,269	6	St. Thomas	J. L. Peters	1917	
12,243–12,255	13	Tortola: Roadtown	J. L. Peters	1917	
12,256–12,259	4	Virgin Gorda	J. L. Peters	1917	
12,260–12,263	4	Anegada	J. L. Peters	1917	
10,733–10,745	13	St. Croix: Fredericksted	G. K. Noble	1914	Plate **6**, fig. 2, Plate **19**, fig. 5–8
10,725–10,732	8	St. Croix: Christiansted	G. K. Noble	1914	
13,454		St. Croix	A. G. Ruthven		

SPHAERODACTYLUS MICROLEPIS Reinhardt & Lütken.

10,787	1	St. Lucia	G. A. Ramage	1915	Plate **9**, fig. 1, Plate **25**, fig. 1–4

SPHAERODACTYLUS MOLEI Boettger.

8,993	1	Trinidad: Arima	Roland Thaxter	1913	
12,054	1	Trinidad: Guiaco	H. L. Clark	1916	
12,055	1	Trinidad: Guiaco	H. L. Clark	1916	Plate **1**, fig. 4, Plate **13**, fig. 5–8
14,676	1	British Guiana: Maruca River	Univ. Mich. Exp.		

SPHAERODACTYLUS MONILIFER Barbour.

10,786	1	Dominica	G. A. Ramage	1915	Type, Plate **9**, fig. 4, Plate **26**, fig. 5–8

SPHAERODACTYLUS NIGROPUNCTATUS Gray.

8,536	1	Cuba: Guantanamo, Monte Libano	C. T. Ramsden	1913	Plate **3**, fig. 2, Plate **17**, fig. 1–4

SPHAERODACTYLUS NOTATUS Baird.

8,212	1	Mass.: Boston in fruit			
4,317	1	Fla.: Key West	L. F. de Pourtalès		
4,386	1	Fla.: Key West	Samuel Garman	1878	
13,463–13,469	7	Fla.: Dade Co., Royal Palm Hammock	C. A. Mosier	1919	
13,470–13,474	5	Fla.: Upper Matacumbe Key	W. S. Brooks	1920	
13,479	1	Fla.: Big Pine Key	W. S. Brooks	1920	
6,974	1	Bahamas: Little Abaco	Thomas Barbour	1904	
6,971	1	Bahamas: Stranger's Cay	Thomas Barbour	1904	
6,972	2	Bahamas: New Providence	Thomas Barbour	1904	
8,213	1	Bahamas: New Providence			
13,443–13,446	4	Bahamas: Exuma: Cay opp. Roseville	C. J. Maynard	1915	
13,475–13,478	4	Bahamas: Little Woman's Key	C. J. Maynard	1915	
7,919	1	Cuba: San Diego de los Baños	Thomas Barbour	1912	
7,920	1	Cuba: Cienfuegos, Soledad	Thomas Barbour	1912	
8,513	1	Cuba: Guantanamo, Monte Libano	Thomas Barbour	1913	Plate **3**, fig. 3
11,059–11,060	2	Cuba: Guantanamo, San Carlos	C. T. Ramsden	1915	
8,542–8,543	2	Cuba: Jiguani, Los Negros	Thomas Barbour	1913	
10,914	1	Cuba: Guane	Barbour & Brooks		
11,215	1	Cuba: Baracoa, Cueva de la Majana	V. J. Rodriguez	1915	
13,460–13,462	3	Cuba: Cananova	V. J. Rodriguez	1919	
13,447–13,451	5	Cuba: Oriente, Siboney	V. J. Rodriguez	1918	
13,595–13,596	2	Cuba: Oriente, Cape Maisi	V. J. Rodriguez		
11,195–11,198	4	Island of Pines: Sierra de Casas	Barbour & Brooks	1915	Plate **20**, fig. 5–8

SPHAERODACTYLUS OXYRRHINUS Gosse

7,033	1	Jamaica?			
7,276	2	Jamaica: Port Antonio	A. E. Wight		*S. dacnicolor* Barbour, Cotypes, Plate **5**, fig. 1, Plate **16**, fig. 1–4

SPHAERODACTYLUS PACIFICUS Stejneger.

13,727	1	Cocos Island	P. Biolley	1902	Paratype, Plate **1**, fig. 3, Plate **13**, fig. 1–4

SPHAERODACTYLUS PICTUS Garman.

6,071	2	St. Christopher	Samuel Garman	1879	Cotypes, Plate **8**, fig. 2, Plate **23**, fig. 1–4

SPHAERODACTYLUS RICHARDSONII Gray.

7,337	1	Jamaica: Kingston	Thomas Barbour	1909	Plate **5**, fig. 3, Plate **19**, fig. 1–4
13,591	1	Jamaica: Kingston	Thomas Barbour	1909	
13,592	1	Jamaica: Kingston	Thomas Barbour	1909	
7,818	1	Jamaica: Montego Bay	H. L. Clark	1912	

SPHAERODACTYLUS SCABER Barbour & Ramsden.

12,304	1	Cuba: Camagüey, Sierra de San Juan de los Perros	Thomas Barbour	1918	Type
13,438–13,441	4	Cuba: Camagüey, Sierra de San Juan de los Perros	Thomas Barbour	1918	
7,952	1	Cuba: Sierra de Jatibonico	Barnum Brown	1912	Plate **3**, fig. 4, Plate **22**, fig. 1–4

SPHAERODACTYLUS TORREI Barbour.

6,916	3	Cuba: Santiago de Cuba	Wirt Robinson	1904	Cotypes
8,508	1	Cuba: Guantanamo, San Carlos	C. T. Ramsden	1913	Plate **2**, fig. 2, Plate **11**, fig. 1–4
13,482–13,486	5	Cuba: Guantanamo, San Carlos	C. T. Ramsden	1913	
8,510	1	Cuba: Cabo Cruz	Thomas Barbour	1913	Plate **2**, fig. 1
13,481	1	Haiti: Thomazeau	G. M. Allen	1919	

SPHAERODACTYLUS VINCENTI Boulenger.

10,788	1	St. Vincent		1915	Cotype, Plate **9**, fig. 3, Plate **26**, fig. 1–4

Thirty-six islands and six mainland countries are represented by specimens in the collection.

EXPLANATION OF THE PLATES.

The dorsal scales shown on Plate **10–26** are those equal to the distance from tip of snout to centre of eye in each species illustrated.

PLATE 1.

PLATE 1.

Fig. 1. Sphaerodactylus decoratus Garman.
M. C. Z. 6,952. Mangrove Cay, Andros Island, Bahamas. Owen Bryant. 1904.
Fig. 2. Sphaerodactylus gibbus Barbour. TYPE.
M. C. Z. 13,436. Exuma Cays, Stocky Island, Bahamas. C. J. Maynard. 1915.
Fig. 3. Sphaerodactylus pacificus Stejneger. PARATYPE.
M. C. Z. 13,727. Cocos Island. P. Biolley.
Fig. 4. Sphaerodactylus molei Boettger.
M. C. Z. 12,055. Guiaco, Trinidad. H. L. Clark. 1916.
Fig. 5. Sphaerodactylus intermedius Barbour & Ramsden. TYPE.
M. C. Z. 12,305. Sierra de Hato Nuevo, Matanzas, Cuba. Thomas Barbour. 1918.

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HELIOTYPE CO. BOSTON

PLATE 2.

PLATE 2.

Fig. 1. Sphaerodactylus torrei Barbour.
M. C. Z. 8,510. Cabo Cruz, Cuba. Thomas Barbour. 1913.
Fig. 2. Sphaerodactylus torrei Barbour.
M. C. Z. 8,508. San Carlos, Guantanamo, Cuba. C. T. Ramsden. 1913.
Fig. 3. Sphaerodactylus elegans MacLeay.
M. C. Z. 10,910. San Antonio de los Baños, Cuba. Barbour & Brooks. 1914.
Fig. 4. Sphaerodactylus cinereus Wagler.
M. C. Z. 10,844. Cabo San Antonio, Cuba. Carlos de la Torre. 1914.

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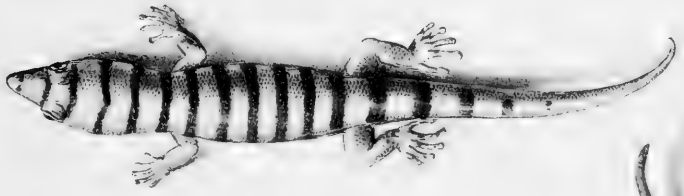

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HELIOTYPE CO. BOSTON

PLATE 3.

PLATE 3.

Fig. 1. Sphaerodactylus festus Barbour.
M. C. Z. 10,622. Fort de France, Martinique. A. G. Ruthven. 1914.
Fig. 2. Sphaerodactylus nigropunctatus Gray.
M. C. Z. 8,536. Monte Libano, Guantanamo, Cuba. C. T. Ramsden. 1915.
Fig. 3. Sphaerodactylus notatus Baird.
M. C. Z. 8,513. Monte Libano, Guantanamo, Cuba. Thomas Barbour. 1913.
Fig. 4. Sphaerodactylus scaber Barbour & Ramsden.
M. C. Z. 7,952. Sierra de Jatibonico, Cuba. Barnum Brown.

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HELIOTYPE CO. BOSTON

PLATE 4.

PLATE 4.

Fig. 1. Sphaerodactylus lineolatus Lichtenstein.
M. C. Z. 11,727. Zent, Costa Rica. H. S. Blair.
Fig. 2. Sphaerodactylus lineolatus Lichtenstein.
M. C. Z. 10,934. Saboga Island, Gulf of Panama. W. W. Brown. 1904.
Fig. 3. Sphaerodactylus goniorhynchus Cope.
M. C. Z. 7,343. Beacon Hill, Bath. Jamaica. Thomas Barbour. 1909.
Fig 4. Sphaerodactylus argus Gosse.
M. C Z. 7,034. Kingston, Jamaica, Wirt Robinson. 1905.

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HELIOTYPE CO. BOSTON

PLATE 5.

PLATE 5.

Fig. 1. Sphaerodactylus oxyrrhinus Cope.
M. C. Z. 7,276. (*S. dacnicolor* Barbour. COTYPE). Port Antonio, Jamaica. A. E. Wight. 1909.
Fig. 2. Sphaerodactylus argivus Garman. TYPE.
M. C. Z. 13,597. Cayman Brac. C. J. Maynard. 1888.
Fig. 3. Sphaerodactylus richardsonii Gray.
M. C. Z. 7,337. Kingston, Jamaica. Thomas Barbour. 1909.
Fig. 4. Sphaerodactylus corticolus Garman. COTYPE.
M. C. Z. 6,219. Rum Cay, Bahamas. C. J. Maynard. 1888.

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HELIOTYPE CO. BOSTON

PLATE 6.

PLATE 6.

Fig. 1. Sphaerodactylus gilvitorques Cope. TYPE.
Acad. Nat. Sci. Phil. 7,555. Jamaica.
Fig. 2. Sphaerodactylus macrolepis Günther.
M. C. Z. 10,735. Fredericksted, St. Croix. G. K. Noble. 1914.
Fig. 3. Sphaerodactylus macrolepis Günther.
M. C. Z. 12,242. Manati, Porto Rico. G. M. Allen & J. L. Peters. 1917.

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HELIOTYPE CO. BOSTON

PLATE 7.

PLATE 7.

Fig. 1. Sphaerodactylus exsul Barbour. TYPE.
M. C. Z. 7,894. Little Swan Island. George Nelson. 1912.
Fig. 2. Sphaerodactylus copei Steindachner.
M. C. Z. 3,342. (*S. picturatus* Garman. TYPE). Grand Anse River, Haiti. D. F. Weinland. 1865.
Fig. 3. Sphaerodactylus anthracinus Cope.
M. C. Z. 6,222. (*S. asper* Garman. TYPE). Middle Bight, Andros Island, Bahamas. C. J. Maynard. 1888.

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HELIOTYPE CO. BOSTON

PLATE 8.

PLATE 8.

Fig. 1. Sphaerodactylus fantasticus Duméril & Bibron.
M. C. Z. 10,631. Guadeloupe. G. K. Noble. 1914.
Fig. 2. Sphaerodactylus pictus Garman. TYPE.
M. C. Z. 6,071. St. Christopher. Samuel Garman. 1879.
Fig. 3. Sphaerodactylus sputator (Sparrman). COTYPE.
Royal Mus. Stockholm. St. Eustatius.
The largest of three cotypes. Bror Hallberg, *del.*
Fig. 4. Sphaerodactylus sputator (Sparrman). COTYPE.
Royal Mus. Stockholm. St. Eustatius.
The smallest of three cotypes. Bror Hallberg, *del.*

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PLATE 9.

PLATE 9.

Fig. 1. Sphaerodactylus microlepis Reinhardt & Lütken.
M. C. Z. 10,787. St. Lucia. G. A. Ramage. 1915.
Fig. 2. Sphaerodactylus elegantulus Barbour. TYPE.
M. C. Z. 12,084. Antigua. D. W. Griswold. 1917.
Fig. 3. Sphaerodactylus vincenti Boulenger. COTYPE,
M. C. Z. 10,788. St. Vincent.
Fig. 4. Sphaerodactylus monilifer Barbour. TYPE.
M. C. Z. 10,786. Dominica. G. A. Ramage. 1915.

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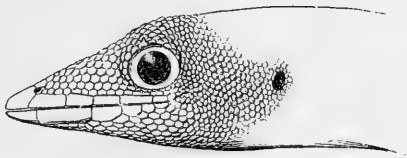
PLATE 10.

PLATE 10.

Fig. 1–4. Sphaerodactylus decoratus Garman.
M. C. Z. 6,952. Cf. Plate 1, fig. 1.
Fig. 5–8. Sphaerodactylus gibbus Barbour.
M. C. Z. 13,436. Cf. Plate 1, fig. 2.



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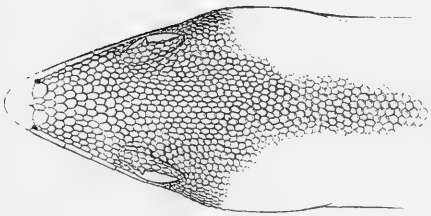

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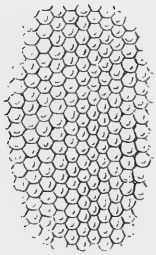

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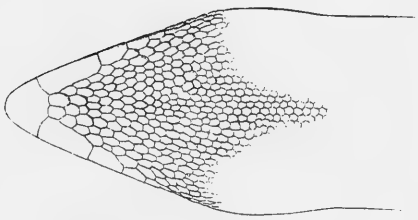

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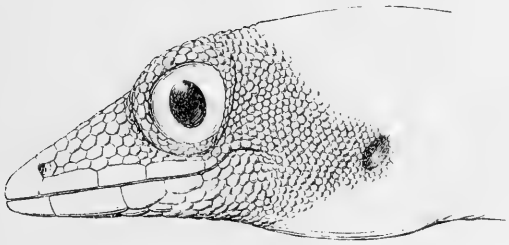

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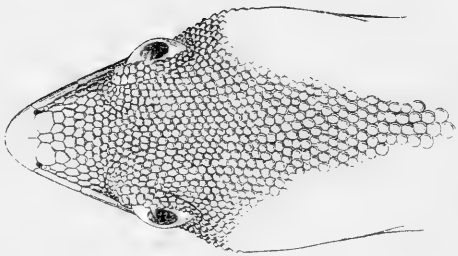

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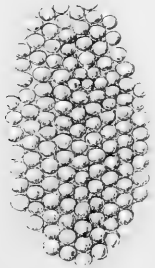

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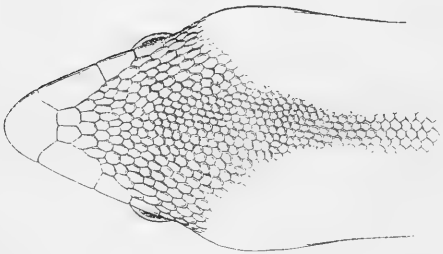

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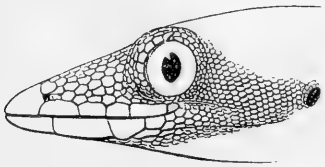
PLATE 11.

PLATE **11**.

Fig. 1–4. Sphaerodactylus torrei Barbour.
M. C. Z. 8,508. Cf. Plate **2**, fig. 2.
Fig. 5–8. Sphaerodactylus elegans MacLeay.
M. C. Z. 10,910. Cf. Plate **2**, fig. 3.



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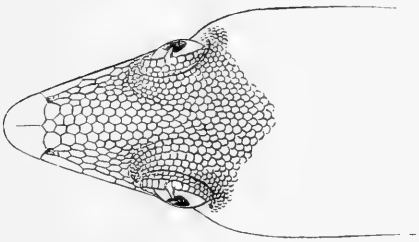

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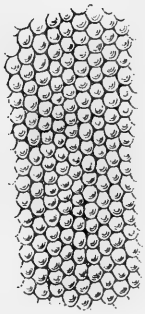

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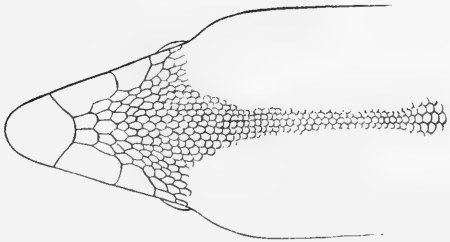

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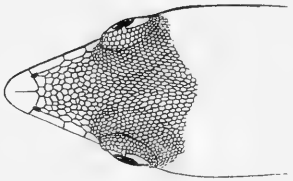

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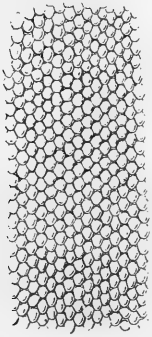

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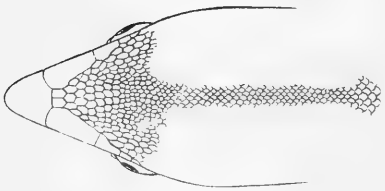

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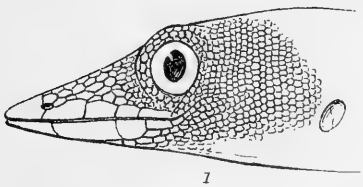
PLATE 12.

PLATE 12.

Fig. 1–3. Sphaerodactylus cinereus Wagler.
M. C. Z. 11,194. Island of Pines. Barbour & Brooks.
Fig. 4. Sphaerodactylus cinereus Wagler.
M. C. Z. 10,845. Cabo San Antonio, Cuba, C. de la Torre.
Fig. 5–8. Sphaerodactylus intermedius Barbour & Ramsden.
M. C. Z. 12,305. Cf. Plate 1, fig. 5.



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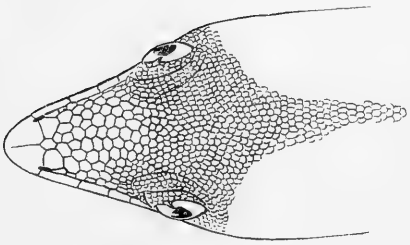

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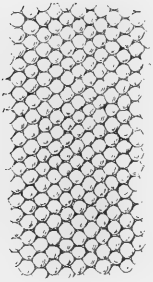

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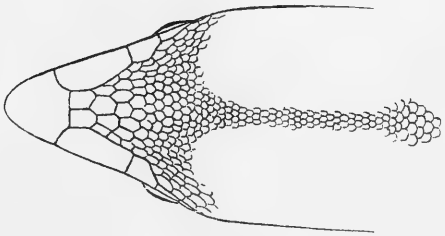

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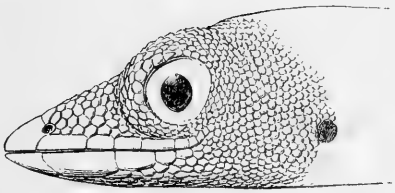

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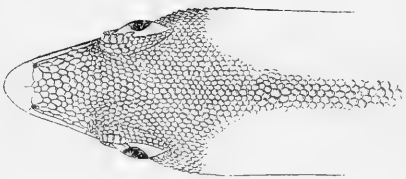

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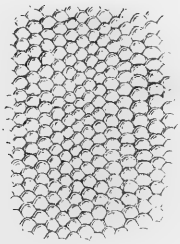

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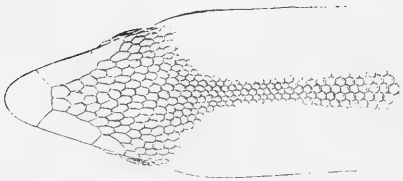

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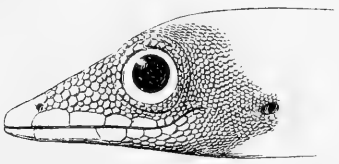
PLATE **13.**

PLATE 13.

Fig. 1–4. Sphaerodactylus pacificus Stejneger.
M. C. Z. 13,727. Cf. Plate 1, fig. 3.
Fig. 5–8. Sphaerodactylus molei Boettger.
M. C. Z. 12,055. Cf. Plate 1, fig. 4.



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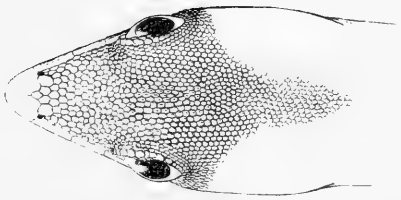

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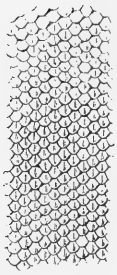

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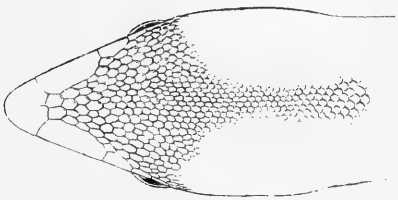

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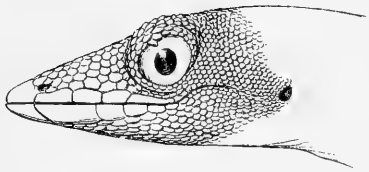

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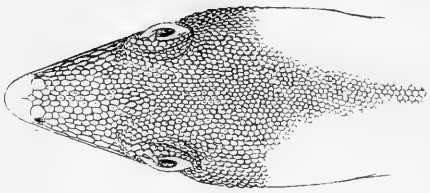

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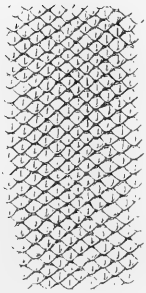

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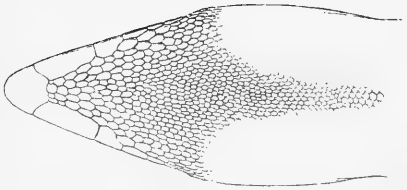

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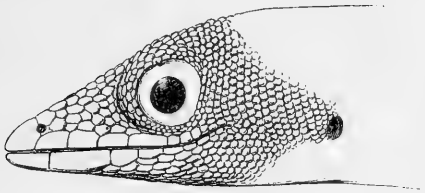
PLATE 14.

PLATE 14.

Fig. 1–4. Sphaerodactylus lineolatus Lichtenstein.
M. C. Z. 10,934. Cf. Plate 4, fig. 2.
Fig. 5–8. Sphaerodactylus glaucus Cope.
M. C. Z. 13,570. Merida, Yucatan. A. Schott.



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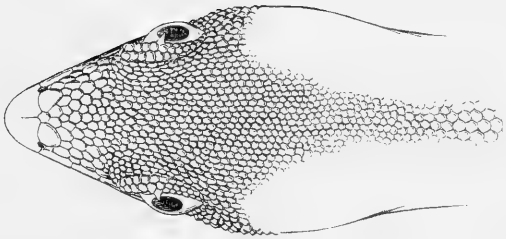

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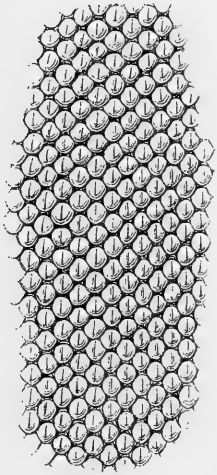

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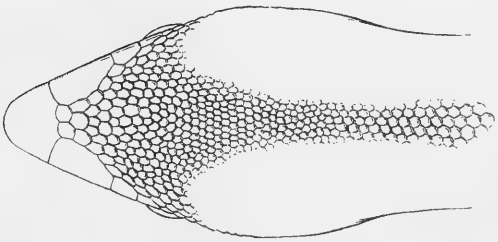

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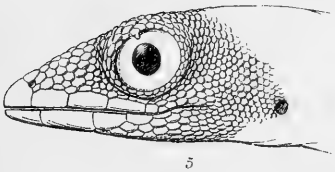

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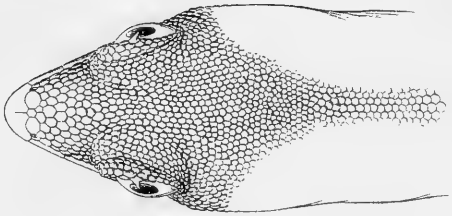

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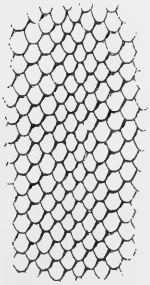

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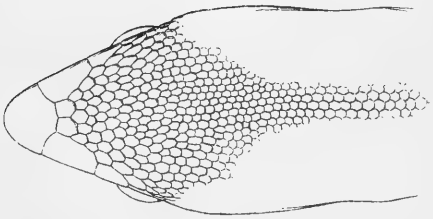

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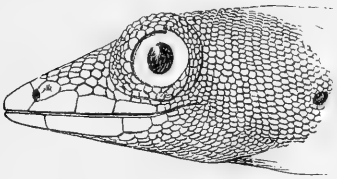
PLATE 15.

PLATE **15**.

Fig. 1–4. Sphaerodactylus festus Barbour.
M. C. Z. 10,622. Cf. Plate **3**, fig. 1.
Fig. 5–8. Sphaerodactylus goniorhynchus Cope.
M. C. Z. 7,343. Cf. Plate **4**, fig. 3.



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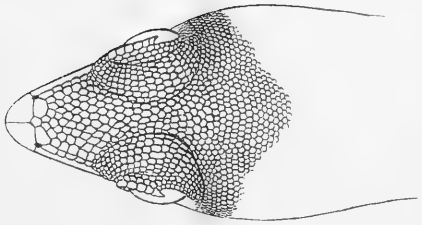

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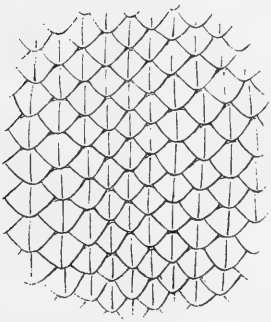

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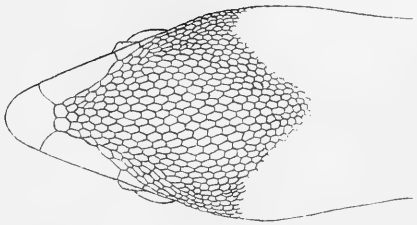

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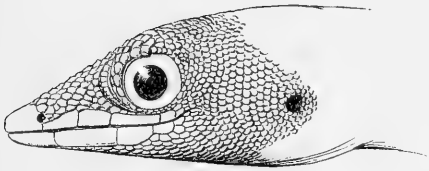

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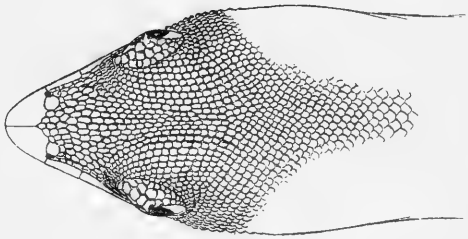

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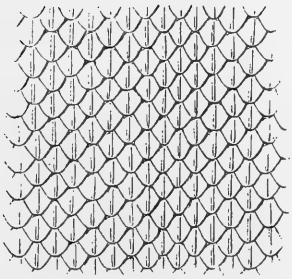

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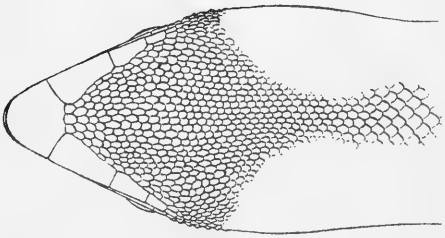

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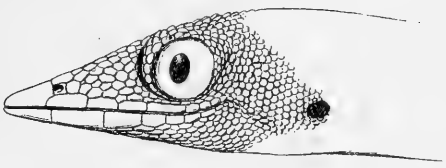
PLATE 16.

PLATE **16.**

Fig. 1–4. Sphaerodactylus oxyrrhinus Gosse.
M. C. Z. 7,276. Cf. Plate **5**, fig. 1.
Fig. 5–8. Sphaerodactylus argivus Garman.
M. C. Z. 13,597. Cf. Plate **5**, fig. 2.



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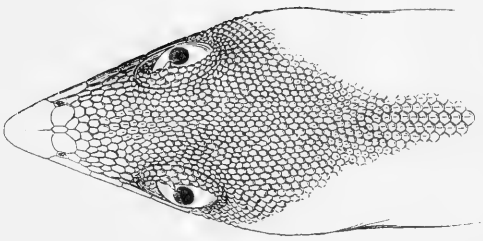

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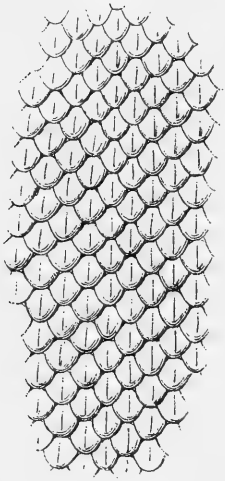

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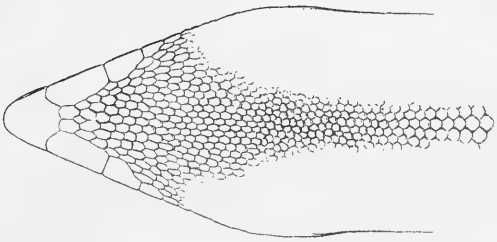

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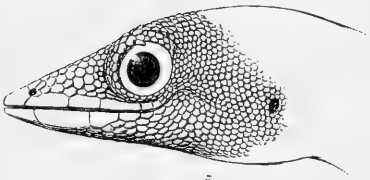

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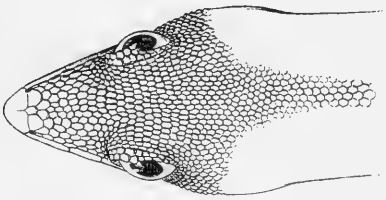

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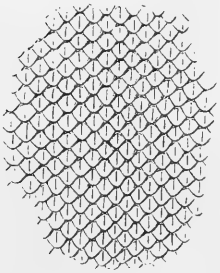

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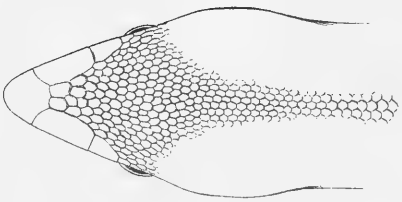

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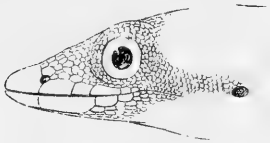
PLATE 17.

PLATE **17.**

Fig. 1–4. Sphaerodactylus nigropunctatus Gray.
M. C. Z. 8,536. Cf. Plate **3**, fig. 2.
Fig. 5–8. Sphaerodactylus argus Gosse.
M. C. Z. 7,034. Cf. Plate 4, fig. 4.



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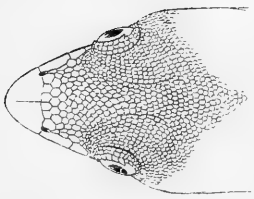

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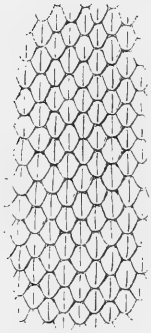

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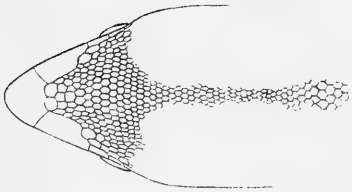

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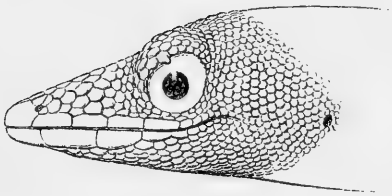

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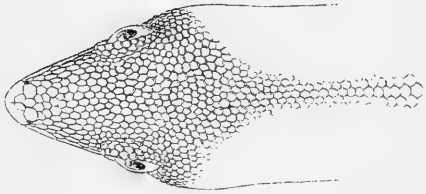

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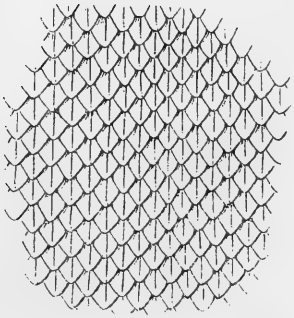

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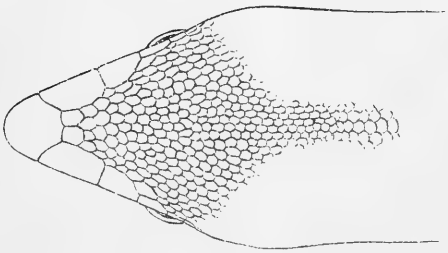

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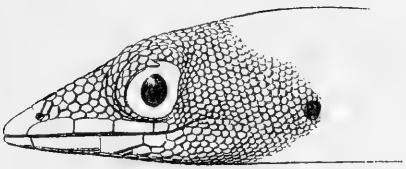
PLATE 18.

PLATE 18.

Fig. 1–4. Sphaerodactylus corticolus Garman.
M. C. Z. 6,219. Cf. Plate 5, fig. 4.
Fig. 5–8. Sphaerodactylus gilvitorques Cope.
Acad. Nat. Sci. Phila. 7,555. Cf. Plate 6, fig. 1.



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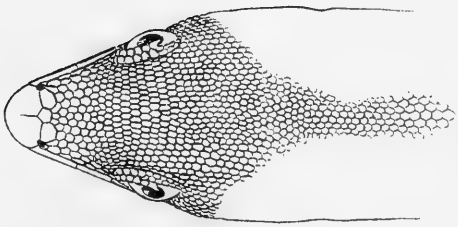

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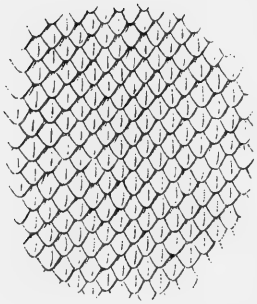

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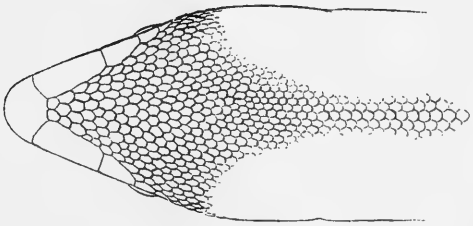

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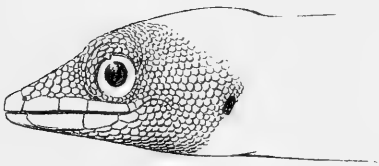

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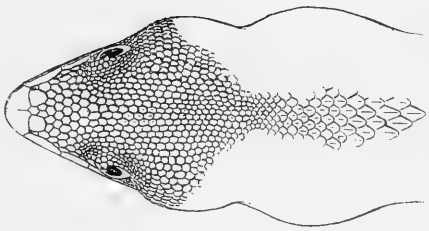

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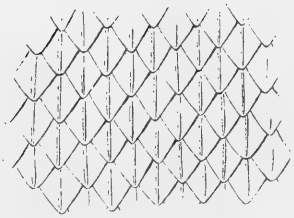

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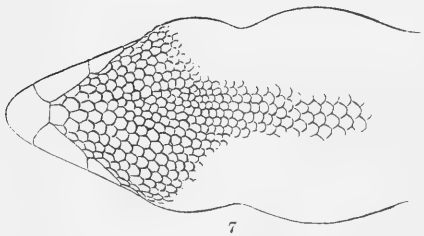

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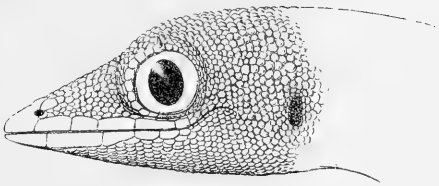
PLATE 19.

PLATE **19**.

Fig. 1–4. Sphaerodactylus richardsonii Gray.
M. C. Z. 7,337. Cf. Plate **5**, fig. 3.
Fig. 5–8. Sphaerodactylus macrolepis Günther.
M. C. Z. 10,735. Cf. Plate **6**, fig. 2.



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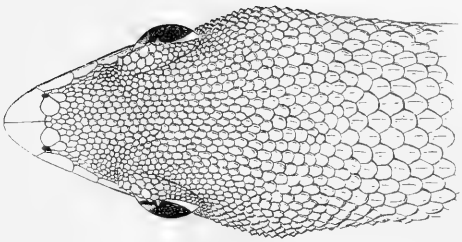

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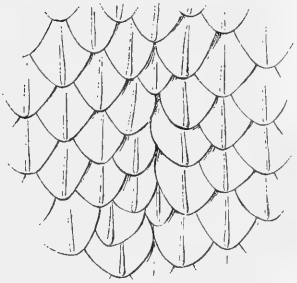

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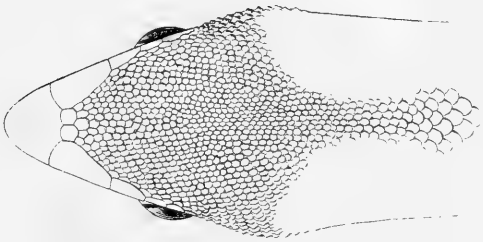

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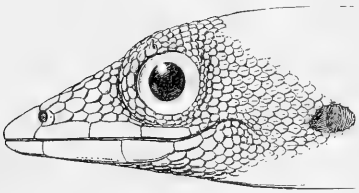

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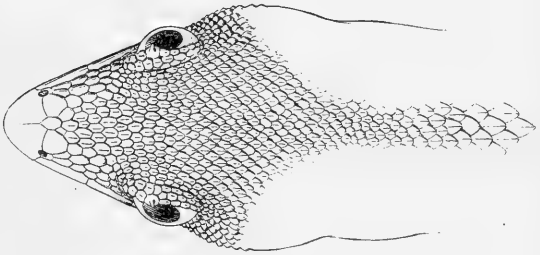

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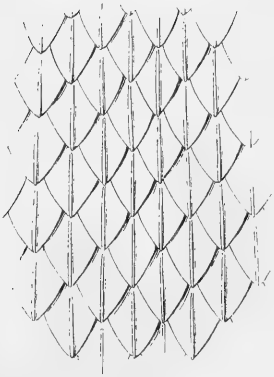

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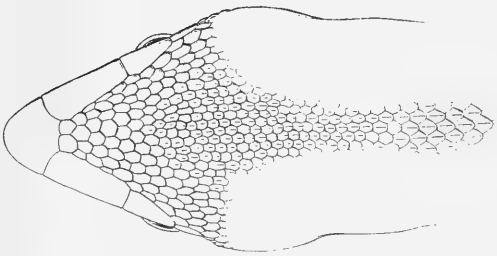

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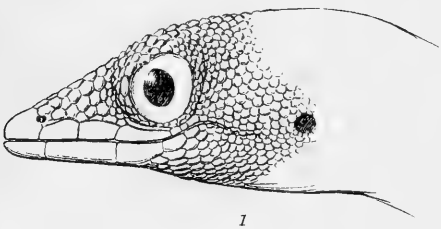
PLATE 20.

PLATE **20**.

Fig. 1–4. Sphaerodactylus exsul Barbour.
M. C. Z. 7,894. Cf. Plate **7**, fig. 1.
Fig. 5–8. Sphaerodactylus notatus Baird.
M. C. Z. 11,198. Island of Pines. Barbour & Brooks.



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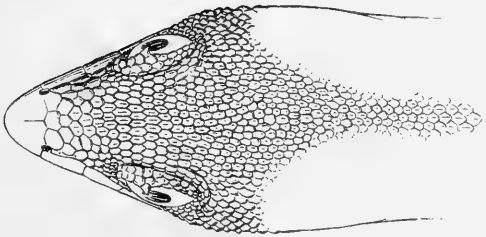

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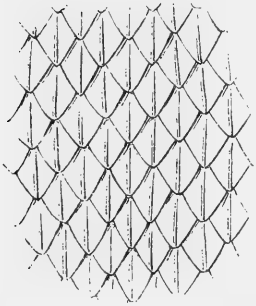

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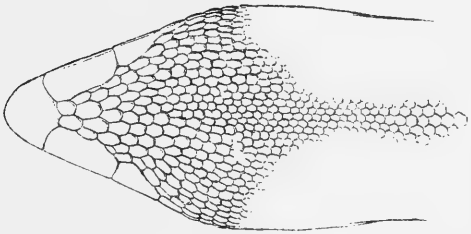

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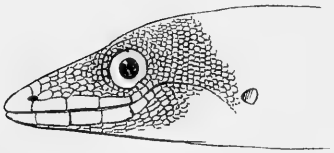

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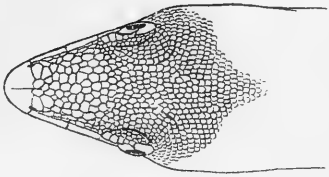

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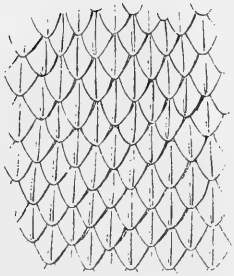

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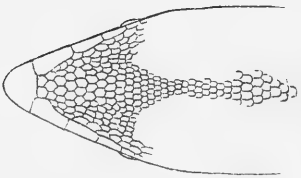

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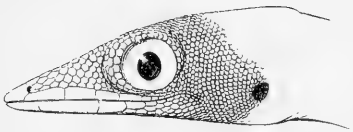
PLATE 21.

PLATE **21.**

Fig. 1–4. Sphaerodactylus anthracinus Cope.
Acad. Nat. Sci. Phil. 7,558. Bahamas.
Fig. 5–8. Sphaerodactylus copei Steindachner.
M. C. Z. 3,342. Cf. Plate **7**, fig. 2.



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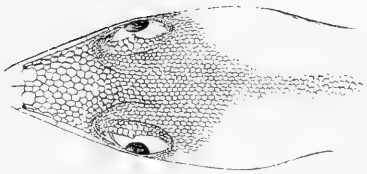

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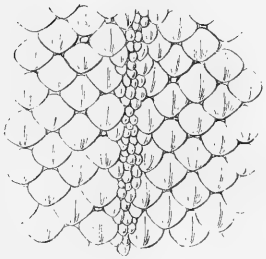

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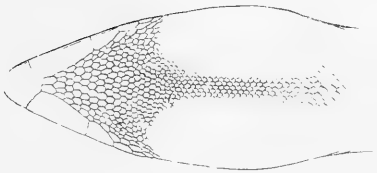

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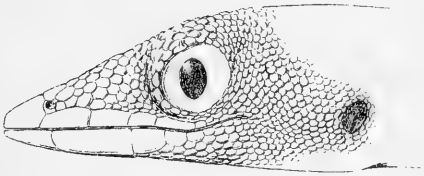

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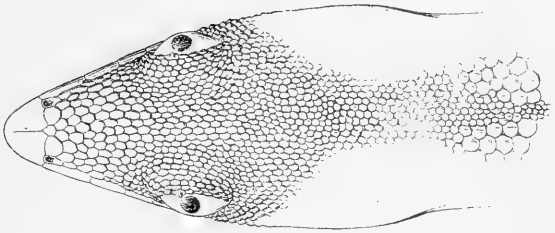

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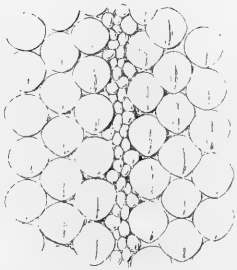

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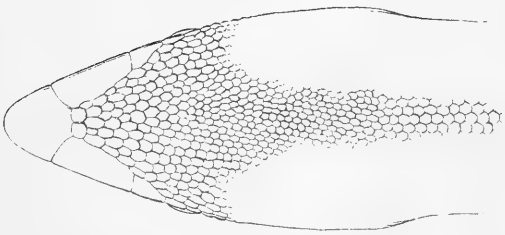

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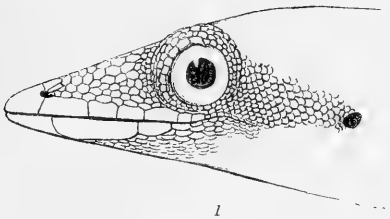
PLATE 22.

PLATE **22**.

Fig. 1–4. Sphaerodactylus scaber Barbour & Ramsden.
M. C. Z. 7,952. Cf. Plate **3**, fig. 4.
Fig. 5–8. Sphaerodactylus fantasticus Duméril & Bibron.
M. C. Z. 10,631. Cf. Plate **8**, fig. 1.



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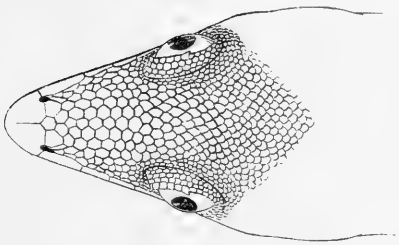

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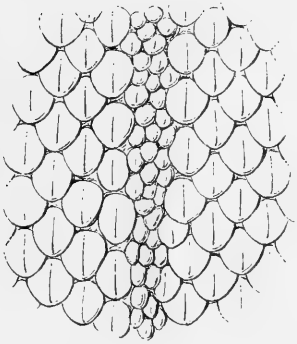

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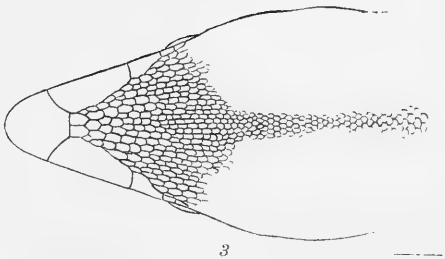

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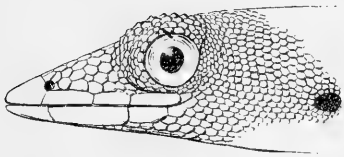

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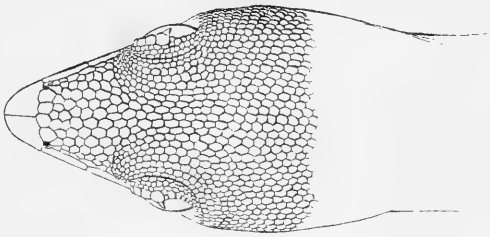

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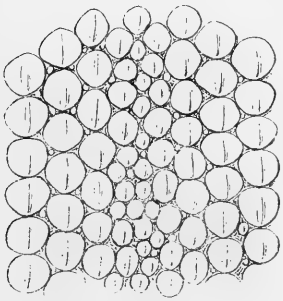

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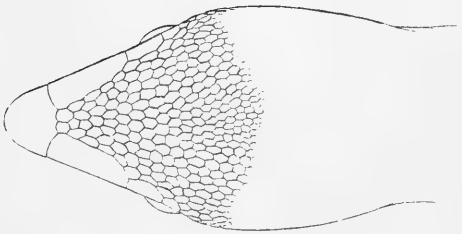

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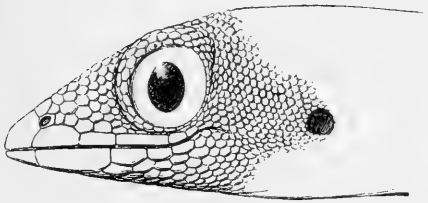
PLATE 23.

PLATE **23**.

Fig. 1–4. Sphaerodactylus pictus Garman.
M. C. Z. 6,071. Cf. Plate **8**, fig. 2.
Fig. 5–8. Sphaerodactylus becki Schmidt.
Amer. Mus. Nat. Hist., 12,595. Navassa.
Mrs. William Beutenmüller, *del.*



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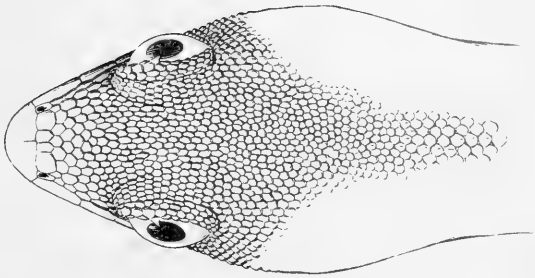

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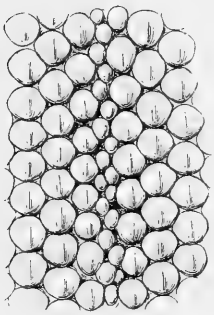

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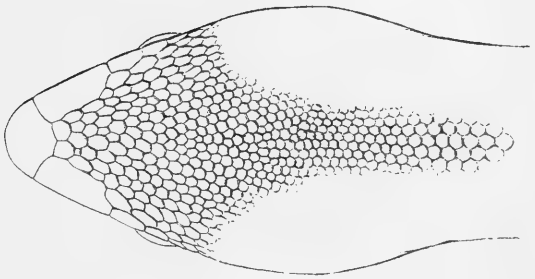

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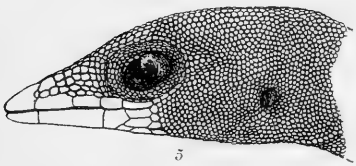

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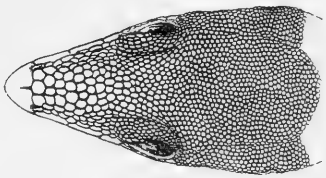

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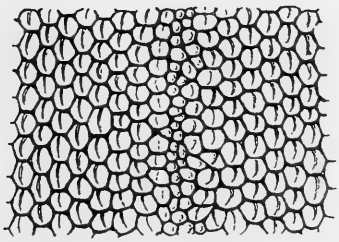

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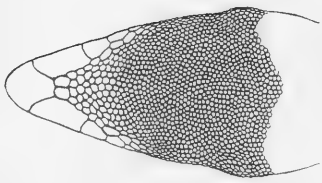

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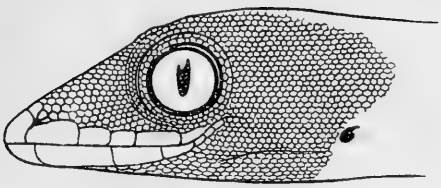
PLATE 24.

PLATE **24**.

Fig. 1–8. Sphaerodactylus sputator (Sparrman).
Royal Mus. Stockholm. Cf. Plate **8**, fig. 3, 4.



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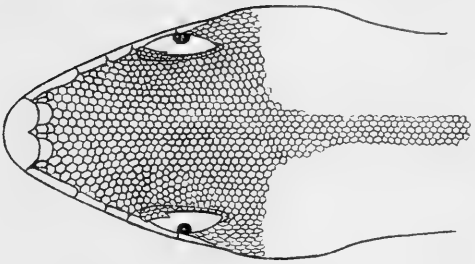

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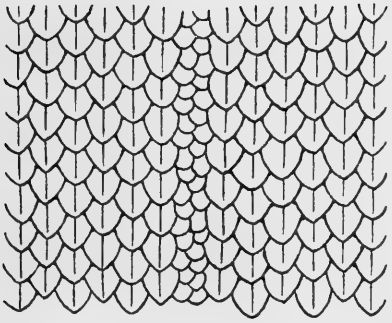

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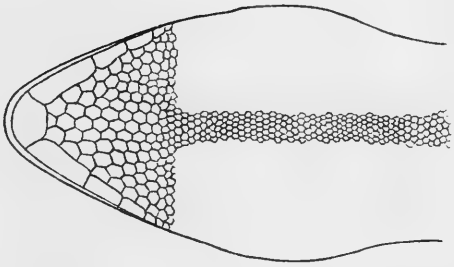

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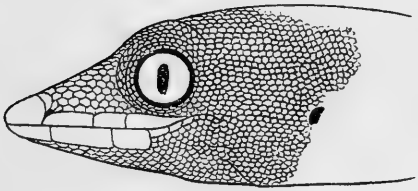

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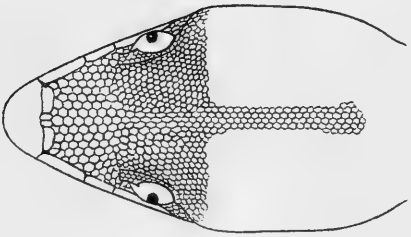

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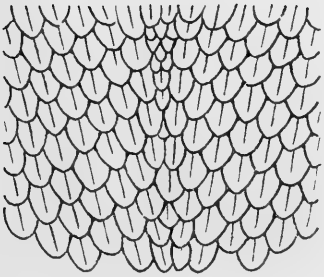

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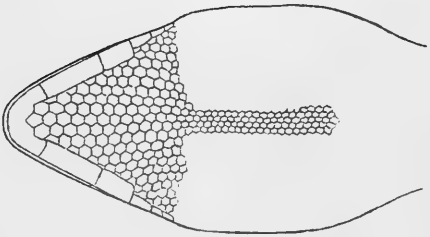

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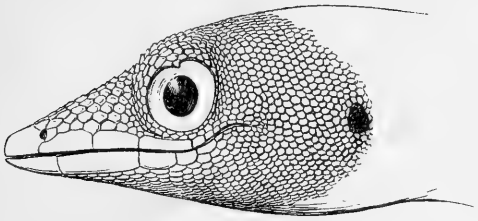
PLATE 25.

PLATE 25.

Fig. 1–4. Sphaerodactylus microlepis Reinhardt & Lütken.
M. C. Z. 10,787. Cf. Plate 9, fig. 1.
Fig. 5–8. Sphaerodactylus elegantulus Barbour.
M. C. Z. 12,084. Cf. Plate 9, fig. 2.



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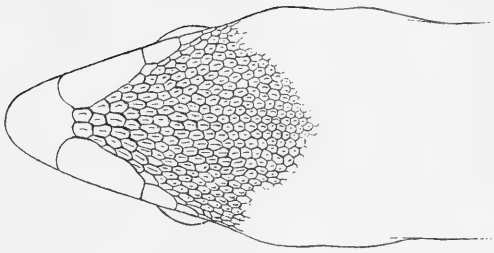

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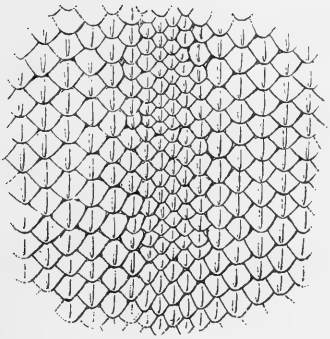

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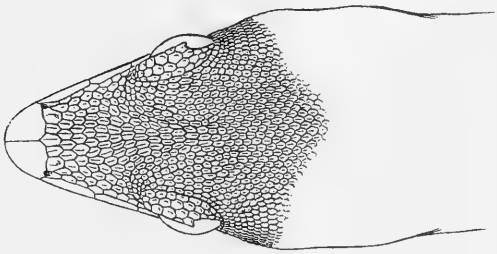

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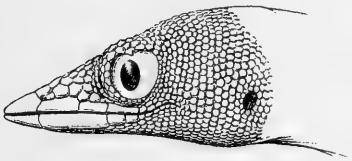

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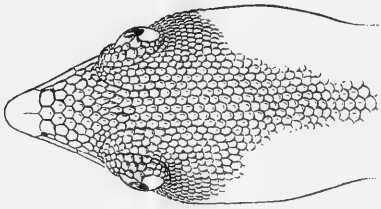

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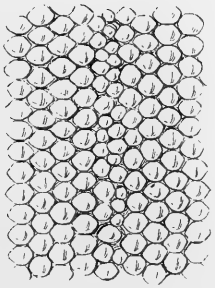

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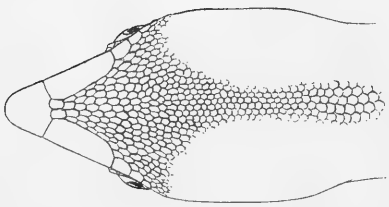

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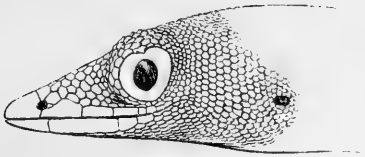
PLATE 26.

PLATE 26.

Fig. 1–4. Sphaerodactylus vincenti Boulenger.
M. C. Z. 10,788. Cf. Plate 9, fig. 3.
Fig. 5–8. Sphaerodactylus monilifer Barbour.
M. C. Z. 10,786. Cf. Plate 9, fig. 4.



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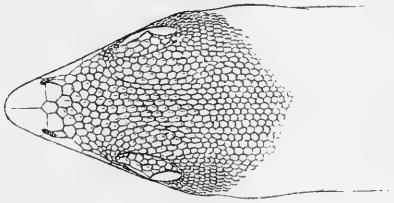

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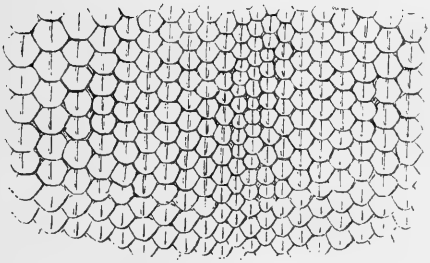

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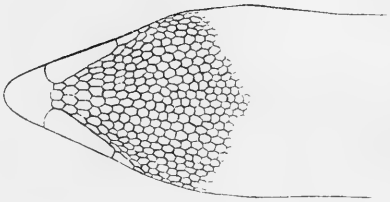

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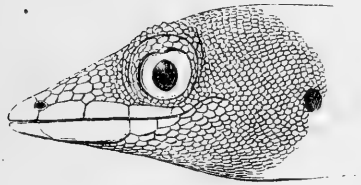

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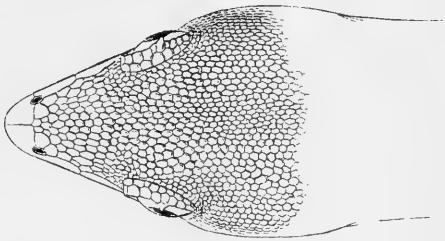

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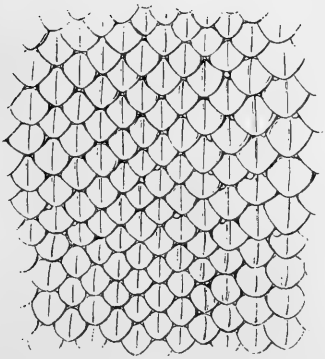

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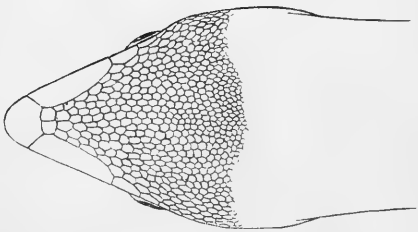

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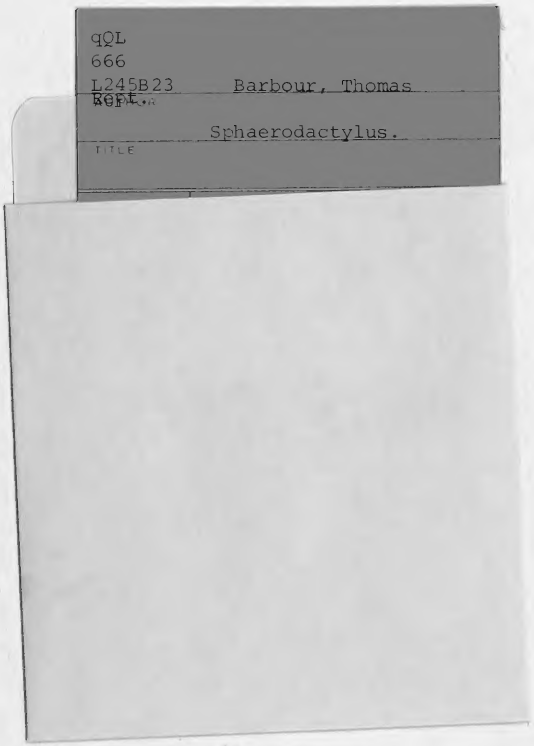
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Barbour, Thomas
Sphaerodactylus.